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TENNESSEE VALLEY AGRICULTURAL CORRELATING COMMITTEE

Knoxville, Tennessee

Unnumbered Publication

October 1949

PROCEEDINGS,

THIRTY-SECOND VALLEY STATES CONFERENCE

The Ansley, Atlanta, Georgia

Wednesday, October 5, 1949



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United States Department of Agriculture; Land-Grant Colleges and
Universities of Alabama, Georgia, Kentucky, Mississippi, North
Carolina, Tennessee, and Virginia; and Tennessee Valley Authority
Cooperating

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ACKNOWLEDGMENTS

Cooperating Agencies

Under a Memorandum of Understanding, dated November 20, 1934, the U. S. Department of Agriculture, Tennessee Valley Authority, and the land-grant colleges of the seven Valley States expressed as their mutual objective in the Tennessee Valley: "To coordinate those phases of the research, extension, land-use planning, and educational activities of these agencies which are related to a unified, regional agricultural program."

Correlating Committee

To facilitate coordinated effort in meeting the problems of the region and to further development of a coordinated program, the Memorandum of Understanding provides for a Correlating Committee to consist of three members and an executive secretary.

Organization. Thomas P. Cooper, Chairman, representing the land-grant colleges; J. C. Dykes, representing the U. S. Department of Agriculture; J. C. McAmis, representing the Tennessee Valley Authority; C. F. Clayton, Executive Secretary.

Valley-States Conference

In order to facilitate discussion of regional problems and to receive advice and recommendations of responsible representatives of the cooperating agencies, the Correlating Committee meets at regular intervals with the deans and directors of the land-grant institutions and with designated representatives of the Department of Agriculture and the Tennessee Valley Authority. This group constitutes the Valley-States Conference. The chairman and the executive secretary of the Correlating Committee serve, respectively, as chairman and secretary of the Conference.

Standing Committees

On request of the Correlating Committee, the Valley-States Conference established a number of standing committees to which the Correlating Committee may refer problems or proposals for special consideration and recommendations or reports. These committees, established at the meeting of the Conference on April 6, 1949, are the Committee on Plant Facilities and Products, Committee on Water and Land Use, and Committee on Rural Facilities, Services, and Industry. The present membership of these committees is as follows:

Committee on Plant Facilities and Products. C. H. Young, Chairman; Walter S. Brown; R. W. Cummings; Roland Crumpler; C. F. Clayton, Secretary

Committee on Water and Land Use. Frank S. Chance, Chairman; Willis M. Baker; P. O. Davis; T. L. Gaston; C. F. Clayton, Secretary

Committee on Rural Facilities, Services, and Industry. R. E. McArdle, Chairman; Frank J. Welch; E. H. White; H. N. Young; C. F. Clayton, Secretary

State Contact Officers

The Memorandum of Understanding also provides for the selection of a State contact officer by each of the seven land-grant colleges. The contact officer seeks to inform the college staff regarding the unified regional development program in the Tennessee Valley and to adjust and coordinate the State program with the Valley program.

Contact Officers. S. G. Chandler, Georgia; T. B. Hutcheson, Virginia; E. J. Kinney, Kentucky; W. D. Lee, North Carolina; E. C. McReynolds, Tennessee; L. A. Olson, Mississippi; R. M. Reaves, Alabama.

Committee on Tennessee Valley Program

To facilitate the work of State contact officers, each land-grant college selects from its faculty a Committee on Tennessee Valley Program. The State contact officer is a member, and usually the chairman of this committee.

TENNESSEE VALLEY AGRICULTURAL CORRELATING COMMITTEE

PROCEEDINGS

THIRTY-SECOND VALLEY-STATES CONFERENCE

Meeting at
The Ansley, Atlanta, Georgia
Wednesday, October 5, 1949

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ACTIONS TAKEN BY THE CONFERENCE

SUMMARY

Classification and Analysis of Farms
in the Tennessee ValleyClassification and Analysis of Farms
in the Valley Counties of Mississippi

This project was initiated on January 1, 1946, under a project agreement between the Tennessee Valley Authority and the agricultural experiment station and the extension service of Mississippi State College. The progress report by Otis T. Osgood, entitled, "The Northeastern Highland Area of Alcorn, Prentiss, and Tishomingo Counties, Mississippi--area, land use, and farms by kind of land and size of farm, 1947; A progress report on farm classification and analysis in the Tennessee Valley counties of Mississippi," was included as Appendix I of the annual report for 1948 made by Mississippi State College to the Tennessee Valley Authority on test-demonstration work in Mississippi.

Director Frank J. Welch, Mississippi Agricultural Experiment Station, submitted a statement, evaluating the project, which was presented to the Conference by Director L. I. Jones. In this statement, Director Welch says (appendix, p. 72): "Summarizing, we have a procedure for determining the different kinds of farms in an area having reasonably uniform use-suitabilities and production possibilities and for indicating the relative importance in terms of proportion of all farms for these different groups. We also have a procedure for recording results on farms and fields by land-use-suitability ratings that indicate the kind of farm and specific soils for which the data are applicable. These are basic fundamental contributions to research methodology that hold far-reaching possibilities for further economic, agronomic, and other agricultural research under both practical farm and controlled experimental conditions. We are well pleased with developments and progress in the project and are at this time making definite plans for beginning extension of the work to other areas in Mississippi next year."

Valley Farm Classification and Analysis
Study, Haywood County, North Carolina

A report on the cooperative work in Haywood County, North Carolina, was made to the Conference (appendix, pp. 77 to 95) and discussed at length (text, pp. 41 to 57). There was also submitted to the Conference a list of recommendations of the project leaders in regard to the use of the results of the work in Haywood County and to the extension of this type of work to other areas in the Tennessee Valley (appendix, p. 96).

The Conference adopted a motion, expressing a vote of thanks to Messrs. Atkins, Brown, and Johnson for the report on the project (text, p. 52).

A question was raised as to the procedure for handling the report and recommendations on the work in Haywood County (text, p. 54). It was

SUMMARY

pointed out that this work was initiated at the suggestion of the Correlating Committee, based on recommendations of the Special Advisory Committee; therefore, a joint meeting of these committees might be held, at which Mr. Johnson, Regional Project Leader, could present the report and recommendations, for consideration by the two committees and submission of such recommendations as they might wish to make to the parties to the Memorandum of Understanding (text, p. 54).

It was further suggested that it might be convenient and desirable for the two committees to meet with Assistant Secretary Hutchinson on Friday, October 14, since officials, who are also members of the committees, are already scheduled to meet with Assistant Secretary Hutchinson in Washington to discuss a Soil Conservation Service problem in North Carolina on that date (text, p. 55).

The Conference adopted a motion, recommending that the procedure outlined above be followed (text, p. 57).

Proposed Regional Film on Land Use

The Correlating Committee, in its report, summarized developments on this matter as follows (appendix, p. 64).

Director P. O. Davis called a meeting of all representatives in Atlanta on June 18, 1949. The TVA, South Carolina, and all of the Valley States except Virginia had representatives present. An agreement was reached on the production of a two-reel motion picture, with the States and TVA agreeing to contribute approximately \$2000 each toward a total of \$18,000 for the picture and other accompanying visual materials, such as posters, descriptive pamphlets, slides, etc., and in return would receive one print of the picture. The funds are to be paid within three budgetary periods, and at the end of the 1948-1949 fiscal year between \$8000 and \$9000 was paid to the Comptroller of the University System of Georgia, who had been designated to receive and disburse these funds under order of the executive committee.

A regional film committee, comprised of one member from TVA and one from each State, was formed, each State member being subject to the approval of his dean or director. This committee was to plan and produce the regional picture. The following were appointed members of the committee:

| | |
|-------------------------|--------------------------------|
| R. M. Reaves | Alabama Polytechnic Institute |
| S. G. Chandler | Georgia College of Agriculture |
| L. A. Olson | Mississippi State College |
| R. W. Shoffner | North Carolina State College |
| H. W. Whittenburg | University of Kentucky |
| E. C. McReynolds | University of Tennessee |
| W. M. Landess, Chairman | Tennessee Valley Authority |
| Thomas W. Morgan | Clemson College |
| | Virginia (not represented) |

ACTIONS TAKEN BY THE CONFERENCE

From this Regional Film Committee, an executive committee was chosen, consisting of W. M. Landess, S. G. Chandler, and R. W. Shoffner. Each extension service was asked to name a State committee to represent the various phases of its State program in the planning of the movie.

The executive committee has met, established contact with the Southern Educational Film Production Service, and initiated the planning of the picture and the writing of the script.

Standing Committees

Membership

The Correlating Committee reported that the following persons have agreed to serve on these committees (appendix, p. 65).

Committee on Plant Facilities and Products

C. H. Young, Chairman
Walter S. Brown
R. W. Cummings
Roland Crumpler

Tennessee Valley Authority
University of Georgia
North Carolina State College
U. S. Department of Agriculture

Committee on Water and Land Use

Frank S. Chance, Chairman
Willis M. Baker
P. O. Davis
T. L. Gaston

University of Tennessee
Tennessee Valley Authority
Alabama Polytechnic Institute
U. S. Department of Agriculture

Committee on Rural Facilities, Services, and Industry

R. E. McArdle, Chairman
Frank J. Welch
E. H. White
H. N. Young

U. S. Department of Agriculture
Mississippi State College
Tennessee Valley Authority
Virginia Polytechnic Institute

The Conference adopted a motion providing for the rotation of the membership of each standing committee, with the provisions that the present chairman of each standing committee shall serve for a four-year term and that the remaining three members shall serve for one, two, and three years, respectively, the term of each member to be decided by lot. This action does not preclude the reappointment of a member to a committee at the expiration of his term of office (text, pp. 25-28).

Meetings

The Correlating Committee, in its report, stated (appendix, p. 66) that it would facilitate the work of that committee if standing committees will establish dates for their regular meetings in line with dates established for regular meetings of the Correlating Committee and of the Conference,

SUMMARY

as indicated in the following schedule:

| | |
|--|------------------------------|
| Committee on Plant Facilities and Products | Second Wednesday in November |
| Committee on Water and Land Use | Second Wednesday in December |
| Committee on Rural Facilities, Services, and Industry | Second Wednesday in January |
| Correlating Committee | First Wednesday in February |
| Valley-States Conference | First Wednesday in April |
| Correlating Committee | First Wednesday in July |
| Valley-States Conference | First Wednesday in October |

Membership of the Conference

The Correlating Committee, in its report, submitted the following recommendations, which were adopted by the Conference (appendix, p. 66):

Regular Members

Regular members of the Conference include: (1) the Chief of the Office of Experiment Stations; the Director of the Extension Service; other members of the staff of the U. S. Department of Agriculture designated by the Secretary of Agriculture; and members of the staff of the Tennessee Valley Authority designated by its Board of Directors; provided, however, that the number of representatives for each of these agencies shall not exceed that recommended by the Correlating Committee; (2) the Dean of Agriculture; Director of the Agricultural Extension Service; and Director of the Agricultural Experiment Station of each of the seven land-grant colleges that are parties to the Memorandum of Understanding; provided, however, that a vice dean or a vice director may, at the option of the dean or director, also serve as a regular member when the institution would otherwise have less than three persons as regular members; (3) members of the Correlating Committee; (4) the chairman of each standing committee of the Conference.

Honorary Members

Honorary members of the Conference include the Secretary of Agriculture, the Chairman of the Board of the Tennessee Valley Authority, and the presidents of the land-grant colleges of the Tennessee Valley States.

ACTIONS TAKEN BY THE CONFERENCE

Associate Members

Members of the staffs of other land-grant colleges and universities may become associate members when recommended by the Correlating Committee and elected by the Conference.

Affiliate Members

Members of the staffs of other public agencies, institutions, or organizations, may become affiliate members when recommended by the Correlating Committee and elected by the Conference.

All official actions and recommendations of the Conference require concurrence of its regular members only.

USDA Production Goals

On this matter, the Correlating Committee reported as follows (appendix, p. 67):

The Correlating Committee met in Washington, D. C., on July 6, 1949, in order to facilitate discussion of this problem with officials of the USDA. Circumstances, however, prevented attendance of the departmental officials concerned. Accordingly, after a brief discussion of the subject, the committee agreed to refer the problem to the Conference Committee on Water and Land Use. Notice of this action was sent to the Committee on Water and Land Use on September 12, 1949.

Correlating Committee Publication

On this subject, the Correlating Committee reported as follows (appendix, p. 68):

At the meeting of the Correlating Committee on July 6, the executive secretary stated to the committee that a manuscript of a proposed publication, described as "a compendium of information and materials relating to the Tennessee Valley Agricultural Correlating Committee and to the Valley-States Conference," has been prepared, and requested authorization of the committee to issue this as a mimeographed circular, subject to the willingness of TVA to assume the processing cost. On motion of Mr. Dykes, the committee approved issuance of the circular as a publication of the Correlating Committee, either in mimeographed or typewritten form, depending upon the arrangements that could be worked out for handling the costs involved.

Next Meeting of Conference

The Correlating Committee recommended that the next meeting of the Conference be held in Jackson, Mississippi, on April 5, 1950 (appendix, p. 67). There was some discussion of a choice of place for the meeting. Various locations

FARM CLASSIFICATION AND ANALYSIS: MISSISSIPPI

were suggested, including State College. Director L. I. Jones was requested to consider the feasibility of holding the Conference at the State College and to recommend a suitable place for the meeting in Mississippi (text, p. 40).

OPENING OF THE CONFERENCE

Dean Thomas Cooper, Chairman of the Conference, called the meeting to order at 9:15 a.m.

(For the roll of the Conference, see appendix, p. 59; and for the program of the Conference, see appendix, p. 61.)

Dean Cooper read a telegram which he had received from Knox T. Hutchinson, Assistant Secretary of Agriculture, in which Mr. Hutchinson expressed his regrets that he was unable to attend the Conference. Dean Cooper asked Mr. Gaston to convey the good wishes of the Conference to Mr. Hutchinson and to express the regrets of the group on his absence.

REPORT OF CORRELATING COMMITTEE

Dean Thomas Cooper, Chairman of the Correlating Committee, presented the report of that committee (appendix, p. 62). Proceedings relating to this report follow.

PROGRESS REPORT

DISCUSSION

Classification and Analysis of Farms in the Tennessee Valley

Classification and Analysis of Farms in the Valley Counties of Mississippi (appendix, p. 62)

- | | |
|----------------|---|
| <u>Cooper.</u> | When I say that "you may hear from them (Director Frank J. Welch and Director L. I. Jones) now," I must explain that Frank (Director Welch) is away and will not be here to make the report; and it falls upon the shoulders of our good friend Director Jones. |
| <u>Jones.</u> | Mr. Chairman and gentlemen of the Conference, I am very sorry the director couldn't be here. He was at another meeting at the college today and he couldn't be here. He did prepare, however, a statement (appendix, p. 68) which I am going to read, because it is more technical than I could give orally. Some of you technicians might understand everything there is in it. I have read it over two or three times, and there are still a few points I am not quite clear on. However, we have |

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Jones. some slides along with this paper, and after I read it, I will show the slides, which I think will bring out some of the results that we are hoping to get over the whole area. This is a progress report on the classification and analysis of farms in the Tennessee Valley counties of Mississippi.

Director Jones read the statement submitted by Director Welch. He then showed and explained a series of slides. The discussion follows.

Jones. Now we will have our second slide, which shows on the lower part of the scale in the first slide. You saw hardwoods in the background and land, except for the immediate foreground shown here, that is suited only for pasture in this particular area. Now, if we were over in the brown-loam area, we might have a different story, because land in that particular category is some of our best corn and cotton land. But it seems that pasture here is the most profitable enterprise on this land. In fact, the hardwoods there cover a type of Bibb soil that only hardwoods can grow on.

Cooper. Is that a deep soil?

Jones. No, a shallow soil. It is only five or six inches deep and is suited only for shallow-rooted crops.

Looking further up the hill--this, by the way, is the marl outlined here on the soils map--is what we call the Davis farm. There are 100 acres in this farm. When they started work on this farm, he was putting cotton down there where his pasture was, or corn, and having hard luck each year with it. When we started classifying it, he began putting his crops on the land that seemed more suitable, according to the number of farms using better practices in the area. On this 100 acre-farm which we are looking at uphill from the pasture, you will notice hay land, back of the two men, with corn to the right, on up to the cotton in the background, and then timber again. This land responds extra well to fertilizers. Being a shallow-type soil, it naturally--you will see from the slide--has to have fertilizer to give a good yield. We may want to come back to this.

Next slide.

Here is the hay area. The land there is a little wet in the immediate foreground, and it has not had a good application of phosphate on the soil above it. We are on the borderline of hay land and the pasture land--the pasture land, then the hay land--and the corn land immediately back of that.

The next slide will show us a division there.

We didn't start the corn quite thick enough. You will notice the first stand in front of the man. We should have gone still

FARM CLASSIFICATION AND ANALYSIS: MISSISSIPPI

Jones. further up the slope there before starting the corn. Looking back down the same slope, you will see the pasture where we saw the cattle a few minutes ago. This is corn land that was fertilized with what you call the 8-4-2: 800 pounds of 5-10-5, I believe the formula was, 400 pounds of ammonium nitrate, and 200 pounds of potash. That land there is some of the best in the area. Its estimated yield in the last two weeks is a little better than 100 bushels to the acre in that particular spot. You will notice that one row failed to fertilize some way or other. This area is getting to be one of our very best corn-producing areas. Of course, it takes a great deal of fertilizer, but it gives a greater return than any other crop. We had 200 farmers getting 100 bushels of corn in this county last year, and close to 100 of them had more than 100 bushels; and they tell me this year we will have 300 or 400 who will make better than 100 bushels, following that method of production of corn.

Young. What is the value of the fertilizer application?

Jones. About 800 pounds of mixed fertilizer, at a total value of around \$150.

Young. What will happen to the price if corn falls to 75 cents a bushel?

Jones. Well, fertilizer should fall with it. It may not do it. The average yield in this area without fertilizer runs about 15 or 16 bushels, and higher up on the slope, which is not suited to corn, it gets down to 10 bushels.

Here is the borderline of the corn and the cotton. You are looking across to some fields, in the background there, at a farm that is not in this program. The barren field there is thrown out of production--I guess they tried to grow corn up there--but on this side you will find a good demonstration of land selection and medium fertilization. That corn there is in the 80-bushel class, I should say. Cotton is about a bale to the acre. But this is the line between the corn and the cotton.

Here is a fertilizer demonstration in the cotton area. To the right--500 pounds of 5-10-5, I believe it is, and to the left, in addition to the 500 pounds, it has 200 pounds of ammonium nitrate with potash. Discussed in this little booklet here, which I want to leave with you, are various rates of fertilization used in the various areas growing cotton. I will not go into that now, but it varies, of course, with the several different methods and rates of application.

Now, after we leave the cotton area, we get into an area in that section of the State that is typical of thousands and thousands of acres of land on which, for some reason, farmers

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Jones. quit growing cotton and corn. They do not know why. It is just not profitable. They go back occasionally and try it again. We think, of course, the best use for it is putting out young pine, as shown here.

The next picture will show you a ten-year growth of pine. It wasn't set out in this program, but it was set out ten years ago and is the best use for that extremely rugged, highland area. Tishomingo County, Mississippi, put out a million and a quarter trees last year--last season. They find that they have thousands of acres more that need the same crop. This growth here is rather unusual. It is one of our better pine sections of Mississippi.

Now, as to the results--as to the acceptance of this program by the people. You can see that. There have been over a thousand people on this one farm--or these eight farms--this year. Here is a group at one of the typical field days we had last July. Here is a test they are running close to the top of the hill in pasture land. We don't know what the results are going to be. It looks fairly good at this time. Bermuda and lespedeza are a little bit higher than on the land shown in the first two pictures you saw for pasture. Having had a good rainy season this year, our pasture looks good on high slopes. The real success of any program, Dean (Dean Cooper), is found in the acceptance by the people--how they are using these data. When we announce a field day at one of these farms, this is the kind of crowd we are getting.

The next picture will show you a cornfield that is a little lower on the slope than the one in the picture first shown, but it is well drained. This is the first farm--the small, 40-acre farm that I mentioned to you--that has no land except what we call corn land, and it goes abruptly into timberland. It is rugged hillsides which have been cultivated and washed away and is not now suited to anything except probably sericea, if it will grow at all, and then pine. This corn here will make better than 100 bushels to the acre. I think it is a demonstration of a 40-acre farm--how a 40-acre farmer can be helped. We had Mr. Bass with us on this farm. A man came out of his cornfield who had a pair of small mules and a small farm of 40 acres, on which he was barely making a living. But on the 5 acres of bottom land which he now has in corn, he is going to make more than he formerly made from all of his crops put together. His farm is so small that he has no area left for hay, unless we can get the sericea to succeed.

Cooper. What did they do to that corn? It looks like the best corn you have shown in all the pictures.

Jones. That is the 8-4-2. It is on what we call good bottom land. It is well drained. Thirteen hundred pounds of fertilizer.

FARM CLASSIFICATION AND ANALYSIS: MISSISSIPPI

- Jones. Going back to the land-use pattern of this particular area, this seems to be the most profitable method of use for this land. You may have some questions; you may have arguments about it. We haven't run long enough to get authentic data on it, but it looks to be the best system to follow at this time.
- Hutcheson. I have two questions. You say that certain of these lands are not suitable for hay. I think you should specify the kind of hay crop used when you say "unsuitable for hay," because we have hundreds of different pastures used for hay. Another thing that bothers me a little: You seem to be ignoring the locations entirely here. You cut a farm up and say, "This is farm land, that is tobacco land, that is hay land, and this is cotton land," but you seem to ignore the fact that most farmers have to grow those things in rotation. I want to know if I am correct in my statement.
- Jones. Back in this statement here, you will notice that is pointed out. They have tried to go in there and take the crops that are already in there (and rotation is not followed so well, as you know, in the cotton belt of the South, the real cotton section; it should be, I agree with you)~~---but~~ taking the main crops that they are growing in that area and trying to fit them to the land that is there that is suitable to that crop. That is one of the things that we are trying to bring out.
- Hutcheson. I have been accustomed to thinking of farms in terms of a cropping system for the farm, the whole farm--not cutting off one area and saying, "This is my cotton land; this is my corn land," and keeping them eternally on that.
- Jones. But you have uniform areas.
- Hutcheson. No, I don't think so.
- Jones. If you go west of this area some twenty miles, you will run into the brown-loam area that is more uniform and over in the Selma chalk area, on the extreme west side of these three areas, it is even more uniform.
- Hutcheson. The purpose of this is to get a pattern for the classification of land. I am trying to think how in the world I could use that kind of pattern on some of our farms in Virginia.
- Jones. I don't think possibly you would be able to on the limited amount of study we have made on it, but we are taking the crops the people are accustomed to growing in the area and the land which they have, which they are going to stay on, and we are trying to fit those crops to the land and to the portions of land that are better suited to that crop. I did have some slides--I didn't bring them along--~~but~~ they show the average pattern of farms in that area. Just look down on

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- Jones. a farm, and you will see corn upon the hill, and a little further, some cotton, and a little further down, some more corn. Maybe on the next hill you will find a different pattern altogether--trying to grow corn way up on these hills that are not suited for corn.
- Dietrick. Mr. Jones, I notice that most of the cotton is fairly far up on the hill. Don't you have trouble with erosion?
- Jones. It is there, yes, but it is well terraced. They first make a land-use map of the farm. Then they follow the next step of laying out the terrace. All this land is under terrace. We have some studies in which corn is farther up the hill than this, and erosion is even more severe, but we are making some more studies in that area.
- White. On this land-use pattern on these small farms, does that preclude the rotation system?
- Jones. No, it doesn't preclude the possibility of rotation at all. You fellows that are familiar with the area know that there is not very much feeling there for changing their system. They are accustomed to growing corn and cotton and what hay they can get, if they can get any. We believe that a rotation system can be worked into it later.
- Dietrick. What is the average size farm in that area?
- Jones. About 60 or 65 acres. The last picture you saw was on a 40-acre farm.
- Dietrick. Is there much chance, over a period of time, of that 40-acre farm being an economical unit?
- Jones. I just can't say. He hasn't but about 5 acres of land there that can grow corn. I didn't mean to say that you couldn't grow hay on that land where he has been growing corn. If he can't get some hay land up there, he will try to build a pasture up there. He has been using all kinds of methods trying to get clover started. It is a sandy, hill-top farm that doesn't lend itself to row crops.
- Clayton. You classified farms, didn't you? I noticed that Dean Hutcheson referred to this as a classification of land. What you fellows were doing was taking various factors, including the soil, and working out a classification of farms; that is, a farm classification, as distinguished from simply a land classification.
- Cummings. It impressed me that even if you could fertilize and maintain fertility, you would have two serious problems on your sloping land; one is controlling erosion; and another, that we have run into where we have tried to run corn for a succession of

FARM CLASSIFICATION AND ANALYSIS: MISSISSIPPI

- Cummings. years, is the insect problem where we have had much difficulty in maintaining stands. We have the same problem in North Carolina that you refer to in Mississippi. I think it is more serious than you have in Virginia. Farmers have not been accustomed to thinking in terms of rotation, but I still feel, if we are going to take proper leadership, that we need to think a great deal more in terms of rotations that will meet the various problems.
- Jones. I agree with you. I have said it and am willing to repeat it; one thing that the land-grant colleges and agencies of the South have been very negligent on is a good farm-management program for the average farmer of the South. We are just not farm-management minded. Our schools haven't taught it up to the last few years, and our extension people know very little farm management. Therefore, they are going to teach the things about which they know more. I think you people in Virginia and Kentucky and parts of Tennessee, and parts of north Georgia, and some of North Carolina, are more rotation minded and think in those terms more than the people farther back in the cotton areas of the South. Our best rotation, Dean (Dean Hutcheson), I think, is the winter cover-crop program on the land. That is the only thing that we might have--a winter cover crop to keep our land covered in the winter and grow our legumes to supply our land with humus and so on by the use of minerals.
- Hutcheson. The thing that struck me was that you are taking exactly the reverse of the idea that we have. We are trying to push our pastures to the hill and our crops--
- Jones. There is more moisture there. As I said, immediately to the west of this area, you will run into a strip of brown loan, which is almost your type soil. The pastures will go to your high lands and your crops to the lower land. Our best corn and hay land is in the bottoms in Vicksburg soil, as we call it; the best soils we have for it. This is true, of course, of this northeast highland area of the State.
- Cooper. I'd like to ask two questions. About four pages back, you had a reference to reducing cost. It had something to do with your operations. The other question was whether this planting of forests represented a subsidized proposal, so far as the States are concerned, or does it represent individual action?
- Jones. In the Tishomingo County area?
- Cooper. Yes, or in any other county area in which you are making these tests.
- Jones. If it hadn't been for the TVA nursery, we never would have gotten it through our State nursery to do the job.

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- Clayton. In your last statement down there, at the conclusion of your paper, you say that your experience in Mississippi has suggested that this device is a useful one, and in the light of that experience that you propose to extend it to other areas of the State. Do you find in terms of personnel and related items that your cost in rendering assistance to the farm people is increased, decreased, or is it affected at all by the use of the device of farm classification and analysis?
- Jones. It shouldn't be greatly increased, no more than getting an idea from the experiment station. You get a group of farmers like we saw in one of those pictures to see what is going on with this land, and it doesn't take them long to spread the practice.
- Clayton. The thought was suggested to me that you have found in farm classification and analysis a useful tool for sharpening up the test-demonstration program. That is the essence of it.
- Jones. That is right.
- Clayton. That is one of the important phases of it--to demonstrate sound practices and to spread those practices.
- Jones. Just the test demonstration in itself, unless we go farther and see these needs, is not in itself going to answer all of our problems. We believe that the Authority and the land-grant colleges need to look farther than just the results of the test demonstration. What is it going to do on the average farm in that area? Unless we do that, we are going to miss the boat.
- Clayton. May I ask one more question? Were the sample farms test-demonstration farms, or were some test-demonstration farms and others not? What was that situation?
- Jones. I would say that all were test-demonstration farms. I am not positive about that.
- Gaston. May I ask one question about that 40-acre farm? The way you described it, there are probably 20 to 30 acres on there that will never be suitable, on the basis of what we know now, for either crops or pasture. That 40-acre farm may not continue to be a 40-acre farm through the next few decades, but a lot of other 40-acre farms will continue to be 40-acre farms, and there will continue to be people living on them. On that farm, or similar farms, are we moving forward as fast as we well might, to help them get, I suppose, trees on that 20 or 30 acres? That, of course, would not give them an immediate return, but on the basis of the picture that you showed here of phenomenal growth, within 10 or 20 years, whoever is on that farm, or a similar farm, could be getting a sizeable proportion of their income from it. Now, are we moving forward on that 40 acres, or on similar 40 acres, to help him get that 20 or

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- Gaston. 30 acres where it will add to the possibilities of, shall we say, living?
- Jones. That man set out trees on his rugged upland last year, and he is trying to get a permanent legume on the areas between the tree line and the corn land.
- Funchess. If I have heard correctly the rather short summary and conclusions, it sounded as if the folks doing this work had very definitely and positively decided that they had developed satisfactory methods and procedures. The feeling seemed to be very strong and positive. Now, you are dealing with a complicated and difficult subject. Did I hear it right? Are those conclusions positive, and, if they are, is this adequate, factual material reported on which to base such conclusions?
- Jones. I didn't think so, Dean, until I went on some of these places. One year's observation or two is not sufficient to give us a very definite reason for making that recommendation, but I think a visit to these farms is the most convincing answer that I can give you. I am, however, quoting the dean and director here in this conclusion. I can say it looks good. That's my point of view: It looks good. It points the way much better than anything we have had in that area.
- Young. As I understand it, he said it is a contribution to methodology.
- Funchess. Whenever any one institution takes the lead in a field like this, as I understand you folks have, you have a very serious responsibility not to make statements too strong unless you are darned sure they are correct. I have been dabbling in this field for a long time, and it is complicated and difficult. I have reference to the last two or three statements in the conclusion.
- Jones. It says: "We have a procedure for determining the different kinds of farms in an area having reasonably uniform use-suitabilities and production possibilities and for indicating the relative importance in terms of proportion of all farms for these different groups. We also have a procedure for recording results on farms and fields by land-use-suitability ratings that indicate the kind of farm and specific soils for which the data are applicable. These are basic fundamental contributions to research methodology that hold far-reaching possibilities for further economic, agronomic, and other agricultural research under both practical farm and controlled experimental conditions." I do not believe, Dean, they shut the door and called it a wrapped-up package. They say that it held far-reaching possibilities.
- Young. Is there a financial check? Are there records on these farms?
- Jones. There are some records. I should like for you to take one of

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- Jones. these mimeographed sheets, Dr. Young; and you have probably read Dr. Osgood's statement in the Journal of Farm Economics, February 1949. I have two more copies of the mimeographed report here, and one of the printed report on this study--sampling methods.
- Chance. There is one question I should like to ask in connection with that pen sketch you had to start with. Was that drawn up from an economic study as to what farmers are doing that are making a success of farming?
- Jones. That is right. But I wouldn't say "success of farming"--just doing the best they can.
- Brown.
(W.S.) That is, what the best farmers are doing in that area. That is the land use that they have adopted themselves through the years and are using now.
- Funchess. Does the research work in the agronomic field, in the case of application of agronomic results, make it possible and pretty nearly force them to follow that pattern? Are we going to assume that what we find the farmers doing is the best thing for the area?
- Jones. No, sir. I think though, Dean, when you have people on the land who won't move off to better land, and you have research data that you can apply to their particular farm, with a little scientific information, you can help that farm improve its condition, and you get away from this business of trying to grow cotton on top of a poor, sandy hill, or corn, or any other crop except trees, which it is suited for.
- Young. I don't see anything on finances on this mimeographed sheet. I want to find out if the thing pays in dollars and cents.
- Jones. There is a very definite record on every farm.
- Funchess. May I ask one more question: Was Bermuda grass planted on that area you referred to?
- Jones. Yes.
- Young. I would like to make one suggestion, if I may. This would have a great deal more effect on me if this weren't merely discussing methodology but were discussing the results of methodology in practical terms down on the farm in dollars and cents. I want to know if this thing pays or not. There is nothing in either one of these articles, so far as I can tell, that indicates anything at all whether this pays or not. I think you would strengthen your case if you put something like that in.
- Jones. This is a progress report and the details are not brought out.

FARM CLASSIFICATION AND ANALYSIS: MISSISSIPPI

- Jones. I think that is a good point and probably should be in the proceedings of this meeting, when this paper is inserted.
- Young. Unless such figures are presented to show the financial results on farms of the application of the method, I don't know how much validity it has.
- Jones. It is helping to change the practice in the area.
- Young. Is it practice in the right direction?
- Jones. It is better than anything we have seen on the limited amount of results.
- Young. You don't say so in these reports.
- Schaub. Would expenses necessarily be any greater than under the system he had been following? It simply says that he is moving his crop to the land best suited for that particular crop.
- Jones. And making it more efficient.
- Young. The figures are not down there; so I don't know.
- Jones. It's in the progress report. It is not a finished story. It may be different if it runs longer.
- Cooper. Well, Dr. Jones, you have, in the first place, offered us something that has stimulated discussion and stimulated questions. They evidently are still seeking light on a point or two, but I think it is a very interesting discussion and very much worth while.
- Young. My only point is that you will strengthen your report if you have something like that in here. The farmer wants something that pays. In other words, the proof of the pudding is in the eating. If the thing pays, all right.

Valley Farm Classification and Analysis
Study, Haywood County, North Carolina

For discussion of this topic, see page 41.

Introduction of New Members and Visitors

- Cooper. This morning, I neglected two introductions that I should have made. First, I want to present Dr. Roland Crumpler, Chief, Conservation and Services Division, Production and Marketing Administration, who has been appointed by Secretary Brannan as a member of the Conference for the Department.

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- Crumpler. I think you had better take the "Doctor" off quick.
- Cooper. There is no title higher than "Mister." Anyway, we are very glad, indeed, to have you with us. And another: Dr. C. C. Murray. All of you know, of course, that Dr. Murray is director of the Georgia experiment station.
- Clayton. I wonder if Dr. Murray will introduce the two visitors.
- Murray. Yes. Mr. W. E. Hendrix and Dr. G. A. Lebedeff, of the Georgia experiment station.

Proposed Regional Film on Land Use

(Appendix, p. 64)

- Cooper. I am sorry that Director Davis isn't here because I think we should have his comments and viewpoints. I remember that he made a statement on this subject at the last Conference meeting, and our committee has been advised that there have been additional developments since that time which I think we should summarize to you.
- Clayton. I don't know that Mr. White or others present--maybe Director Brown--may have something to add to what Dean Cooper has offered on this. We just tried to summarize developments since the last meeting. If there is anything to be added by anyone present in contact with this job, we should appreciate it.
- White. Mr. Landess has made quite a study of the method by which the educational and visual material has been handled. While at Cornell this last summer, he brought back some information which, to me, is quite significant. It seems to me that the practical application of visual material has a great many ramifications over and beyond the traditional film in the way of preliminaries that Dean Cooper has outlined. The report that Mr. Landess made looks very good; it looks practicable; it looks workable. I do feel that the possibilities are over and above the usual possibilities we expect when we are dealing just with a motion picture for sale.

Standing Committees

(Appendix, p. 65)

Membership

- Cooper. Have notices been sent out to these committees?
- Clayton. No.

Continued on page 24.

MEMBERSHIP

Meetings

- Cummings. These meetings will be called by the chairman?
- Cooper. It is expected that the chairman will call them, and these are the dates on which they will be called. It is the duty of the chairman to call them.
- Brown. The chairman will designate the place of the meeting?
(W.S.)
- Cooper. Yes.

Membership of the Conference

(Appendix, p. 66)

- Cooper. I am placing this before you. I believe it would be appropriate to take action if the Conference so wishes.

Regular Members

- Funchess. Is that term "vice director" to be interpreted strictly? If it is, I believe you eliminate most . . .
- Cooper. I suppose, Dean, that that represents a general application. A person doesn't really have to be a vice director; he can be an assistant director, or you can call him something else. He still would come on in. You don't have to give him this title in order to make him-- Jones says, "The next man in line."
- Dietrick. I would like to ask a question in regard to No. (1). I notice that you mention the Director of Extension. Isn't the Chief of the Office of Experiment Stations included in that group?
- Cooper. Yes. He is down here. Do you want to hear that again?

Dean Cooper read the paragraph under Regular Members (appendix, p. 66).

- Brown. In that last clause about membership of land-grant colleges--
(H.L.) is the effect of that limiting it to three?
- Clayton. That is correct. The three designated are the dean and the two directors, but we have in some of the colleges a man who occupies more than one of those positions. That is the reason for that proviso down there. In that situation, others can serve to bring it up to three--if the dean-director wants to do that. He could represent all three of the positions if he wanted to; it is up to him.

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Cooper. In other words, I have a right to bring in more if I want to.

Clayton. Yes.

Cooper. Well, let's see, does that appear all right to you?

Continued on page 21.

Associate Members

Brown. The associate members, Dean, are from other States than the
(H.L.) Valley States?

Cooper. "Associate members of the staffs of other land-grant colleges and universities may become . . ." As I understand it, that means other than the colleges that have participated and signed the Memorandum of Understanding, of which there are seven. There are other colleges than that. "Members of the staffs of other land-grant colleges and universities may become associate members when recommended by the Correlating Committee and elected by the Conference."

Brown. I believe we have some such members already, don't we--Florida
(H.L.) and South Carolina?

Clayton. At some of the earlier meetings, the suggestion was made that South Carolina, Louisiana, Arkansas, and Florida join with these other seven colleges in the signing of the Memorandum of Understanding--that was the thought--and becoming regular members in the sense that these other institutions are. As it turned out, they didn't sign the Memorandum of Understanding but accepted invitations to meet with the group. At the last meeting of the Correlating Committee, the question was taken up as to whether we should continue to issue invitations to these folks to meet with us, since they hadn't been attending in recent years. The thought was that it was useful to have them identified with the Conference in some capacity, and it seemed that the best way to do that, in view of the fact that they are not parties to the memorandum and, therefore, are in a somewhat different category, was to recognize them as associate members. And we do invite those folks to come to these meetings.

Cooper. Is there any discussion on that?

Continued on page 23.

Affiliate Members

White. What, Dean, prompted that particular classification?

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Clayton. In one sense, only this: While we are doing this, to try to provide for the situation as we can visualize it. Several times the suggestion has arisen that this Conference maintain some relationship with agencies that we don't now have any contact with, such as State Departments of Conservation, to use one example. Certain of our programs have a very definite relationship to the State Departments of Conservation, and it is not beyond our thinking, at any rate, that we may reach the point where it would be desirable to establish some relationship with agencies of that type; so, if so, the procedure would be that some recommendations along that line would come to this Conference from the Correlating Committee and be discussed and action taken. If people in that category were admitted to official relationship to the Conference, they would come in, as the suggestion is, as affiliate members, to distinguish them from the category of associate members, which I just described, and regular members. We don't actually have anyone in this category. It is merely a provision set up there to cover a situation should it arise. That is my understanding of it. Mac (Mr. McAmis), is it yours?

Brown. That is an enabling provision, isn't it?
(H.L.)

Clayton. Yes.

Jones. Would they be invited or approached to becoming a member before coming to the Conference? It would be embarrassing to us.

Cooper. I wouldn't think so. I would hope, however, that we would carry it off in pretty well regularized form and seeing that there was a real advantage in arranging for such membership.

Regular Members -Continued from page 20.

Gaston. I have a couple of queries. There is a phrase down toward the end of item (1) as "recommended by the Correlating Committee."

Cooper. Are you referring to regular members or affiliate members?

Gaston. I was referring to regular members. Has there been a number recommended, or is it contemplated the number recommended will be changed from time to time?

Clayton. There has been a number recommended. The question came up not long ago, and was discussed at considerable length with the Correlating Committee, in this matter of representation of the Department. Secretary Anderson, I think it was, in one of his letters, raised the question of whether departmental representation was adequate. The Correlating Committee took it up and discussed it at some length, and their

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- Clayton. action was that the Department be invited to add, in addition to ex officio members, three members to the Conference. Those members, at present, are yourself (Mr. Gaston), Mr. Crumpler, who has just been introduced back there, and Mr. McArdle. Those are the three members from the Department, in addition to the ex officio members. That was the action taken by the Correlating Committee. There is no particular necessity, of course, for resting decision on this matter of representation of the colleges, of the Department, and of TVA--of resting that decision with the Correlating Committee. If you prefer, the matter of determining representation can be handled differently. That is perfectly all right. However, the Correlating Committee, constituted as it is, could very well handle the matter, as provided in the statement.
- Gaston. I didn't mean to be questioning the idea. I was just trying to understand it.
- Cooper. Your point on this question was "shall not exceed." As the thing stands, the Correlating Committee, under this, does not permit the . . .
- Clayton. Under the present action of the Correlating Committee, it may not exceed three, plus two members ex officio. There is nothing in here to prevent the Correlating Committee, at some future time, from saying that the USDA will have six, and TVA will have six, or, for that matter, from saying that USDA will have six and TVA will have four. That is, the decision on this is rested in the Correlating Committee. The present decision is five to the Department, five to TVA, and three to each college.
- White. Would the chairmen of these standing committees be included, or would that be a plus?
- Clayton. That is more or less a useless thing in there, and I'll tell you why. Under our rule, the chairman of this Conference appoints the chairmen of these committees from the regular members of the Conference; so it follows, under the rule, that no one can be a chairman of one of these committees unless he is a regular member of the Conference. What happened was that one time in the past, a certain vice dean was appointed as chairman of a standing committee, although, as vice dean, he did not at that time qualify as a member of the Conference. In order to straighten out the situation, a rule was adopted by the Conference that the chairman of a standing committee is ex officio a member of the Conference. That provision is retained here, although under the rule, chairmen of standing committees would be regular members of the Conference anyhow. I don't know whether it should be left in or taken out.
- Gaston. Dean, my second query. I didn't get, as read, the reason for

MEMBERSHIP

- Gaston. the differentiation in the first two categories. As I understand them, as read, they are both the same.
- Cooper. Do you mean item (1), "Chief of the Office of Experiment Stations, Director of the Extension Service," and so on, and then, item (2), "Dean of Agriculture, Director" and so on of each of the seven land-grant colleges?
- Gaston. Those are two items under the same category; I see.
- Cooper. I am sure that neither the secretary nor the Correlating Committee, if it is preferred to have the thing put in another way, provided they reach the same point--I suspect they wouldn't argue very much.
- Young. Why have No. (1) and No. (2)? Why not take them both out? Just say: "The following are."
- Clayton. It is merely a matter of mechanics. Mechanically, there is a certain advantage in setting up that first category so that you know the group to which the proviso applies. Under the second, you have a proviso in there in relation to this No. (2) category, and so on down.
- Cooper. I think, too, the arrangement will appeal to people who have taught, or to people who have become deans and directors. You always have the tendency to put down item 1 and item 2, and 3 and 4, and you put in your categories--your classifications, as is done here.
- Young. If we are both on the same team, why have two ¹⁶teams; why not have one? That is the point I am trying to make.¹⁷
- Hutcheson. I move the adoption of the recommendations of the Correlating Committee.
- Cummings. I second the motion.
- Cooper. That is on all items--the regular members, the honorary members, the associate members, and the affiliate members?
- Hutcheson. Yes.

Associate Members -Continued from page 20.

- Brown.
(H.L.) A question, Mr. Chairman. Is this associate membership invitation limited to those States that were mentioned--Louisiana, Arkansas, Florida, and South Carolina?
- Clayton. Not necessarily. It is at present.

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Cooper. As I understand it, this means actually it applies to any land-grant college or university, actually as it is written.

Brown. That was what was confusing me--because you named four States,
(H.L.) and the discussion awhile ago sounded like any State.

Cooper. They can become members if recommended by the Correlating Committee and elected by the Conference.

Are there any other questions or suggestions? The motion is to accept or adopt the recommendations as made by the Correlating Committee with reference to the membership of the Conference.

The motion was agreed to.

Standing Committees

Membership -Continued from page 18.

Cummings. May I raise a question on the item just preceding? You announced the membership on three committees, with four members on each committee. What is the term of service of each of the members of those committees?

Clayton. Are you referring to these Committees on Plant Facilities and Products, Rural Facilities, Services, and Industry, and the Committee on Water and Land Use? The question is what is the term of service of the chairman and members?

Cummings. Yes.

Clayton. There is no term fixed, Dr. Cummings. I remember when Dr. Baver was here that he was very much interested in some scheme for rotating the membership. I think there are arguments on both sides. Assuming we want to rotate, this is what we run into immediately. We have three committees there, and there are four members on each, by definition, from this Conference. There might be some advantage in rotating this group around from committee to committee. You could, of course, take a member off of committee one and put him on committee two. By the time the committee quotas are filled, you have pretty well covered the membership of the Conference; not entirely. When we had four standing committees, we really did. With three committees and the new members recently added, we now have a larger number left over.

Cummings. Would a motion in respect to that be in order at this time?

Cooper. I think so.

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Cummings. It seems to me that since only about one-third^{1/} of the total membership is represented on those committees, there is opportunity for rotation within the membership without rotating people from one committee to another, and perhaps some rotation from one committee to another would be helpful at times. I have been very much impressed with the value of bringing new talent into committees from time to time anyway, as a means of keeping the work of those committees alive and going; so I should like to offer the following motion: That the term of service of the members of each committee shall be designated as four years; that the term of service of present members be staggered, by lot, in the order of one, two, three, and four years so there will be one new appointment to each committee each year.

Funchess. I second it as a motion.

Cummings. Then each new appointment will be four years. That does not necessarily mean there could not be reappointments, but I think it would be desirable to consider the new appointments to bring in new talent.

Cooper. You have heard the motion and the second. It is before you for discussion.

Cummings. Two things: There should be continuity of thought and effort within the committee, which would be provided by three old members of the committee--three experienced members of the committee, I should say, but at the same time there should be introduction of new talent by the introduction of one new member each year.

Young. To whom shall the decision be rested as to how this shall be done?

Cummings. By lot.

^{1/} There are 12 members of the Conference on the 3 standing committees. With the 7 new members recently added (3 from USDA and 4 from TVA), there are now 27 regular members of the Conference. Excluding from this number the 3 members of the Correlating Committee, who are ineligible for membership on standing committees, and 3 other members (Messrs. Hilton, Trullinger, and Wilson), who do not attend the meetings of the Conference, leaves 21 regular members who are available for service on standing committees. However, since the requirement is that USDA, TVA, and the colleges must each be represented by not less than 1 member on each standing committee, it follows that rotation of members, if practiced for the Federal agencies, means moving a member from one committee to another committee, since TVA has only 4 eligible members of the Conference and USDA has only 3 eligible and available members of the Conference. For the colleges, the situation is somewhat better. They now have 6 members serving on standing committees, leaving 8 members available for rotation.

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Jones. How will the chairman be determined each year then? Will he be elected chairman, or will he be designated by the chairman of the Conference?

Cummings. That is not included in the motion. That might be considered separately.

The motion was agreed to.

Jones. Mr. Chairman, under that rule we will be without a chairman for each committee within a year.

Cummings. Not necessarily; we might or we might not.

Brown. It depends upon the result of that lot.
(H.L.)

Jones. I thought you said the chairman is already designated.

Cummings. I am sorry. That is right.

Jones. If he goes off, how are you going to elect a chairman?

Gaston. The same way as the first one; let the Correlating Committee appoint the chairman, or designate the chairman.

Hutcheson. I think it would really be better to have the chairman a 4-year man and choose the others by lot. A chairman can't do much in one year.

Cummings. You would like to offer a second motion, would you, Dean Hutcheson, to the effect that in determining the term of the present appointees, that automatically the present chairmen will have a 4-year term? I mean, the present chairmen will have a 4-year term and the term of the others will stagger 3, 2, and 1, by lot.

White. As I understand Dr. Cummings' motion, it meant that they would all be chance lots which might hit the chairman and might not.

Schaub. I move that the chairman be a 4-year man and that the others, in the order named, be 3, 2, and 1.

Cooper. Does that carry with it a partial cancellation?

White. That would be an amendment to Cummings' motion.

Cummings. I might raise one question with respect to that. That would establish a precedent of having the chairman carry a 4-year term. Now, it might be desirable to take it the other way round so that even the chairmanship of a committee might be rotated within the group of the four appointees, and if you drew lots within the entire four, it would provide for

MEMBERSHIP

- Cummings. rotation of the chairmanship as well as the membership.
- Cooper. You would make a motion, Dean Schaub, to amend the previous motion? The previous motion was adopted a few minutes ago.
- Schaub. I had in mind only to appoint a chairman; I have no objection to . . .
- Cummings. Is another motion in order now?
- Cooper. There is no motion before us, as I understand it. Is that correct?
- Cummings. Was it withdrawn?
- Cooper. No second to Dean Schaub's motion?
- Gaston. Leaving the rule as adopted, and with the idea that if and when the chairman went off, whether it was 1, 2, 3, or 4 years, among the group that was on the committee at that time, the Correlating Committee would designate which one would serve as chairman, the same as they designated a chairman in the first instance.
- Dietrick. I move that in the setting up of the present three committees that the chairman named to head each committee be the chairman of that committee, and that the other three remaining ~~members~~ then draw lots to determine whether they should be the 1-, 2-, or 3-year people. The 3 members, not the chairman, would draw lots. The only thing would be to exclude the chairman from the lot business.
- Clayton. It makes a lot of difference whom we have as chairmen of these committees.
- Young. It makes a difference to them, too. I'll second that motion.
- Cooper. The motion is before you and is seconded. Will you state that again?
- Dietrick. In setting up the three committees at the present time, the individuals named as chairmen shall be chairmen, and the other three members of each committee shall draw lots to determine which shall have the 1-, 2-, and the 3-year terms.
- White. If the Correlating Committee has a right to appoint the chairman, and it has already been brought out here, if one chairman is out, they will get the next chairman like they got the first one, I can't see why, if a chairman draws a lot of one year, the Correlating Committee couldn't reappoint him to fill the new place.
- Cooper. We have a second, don't we?

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- Young. Yes.
- Cooper. Do you have any more comments as to the question before you?
- Gaston. What is the question?
- Dietrick. In setting up these committees that the person designated as chairman would not draw lots but would automatically receive a 4-year term. The other 3 members of the committee would draw lots for the 3-year, 2-year, and 1-year term.
- Chance. Let me ask this question: If a man drops out after the first year, does the Correlating Committee appoint someone else?
- Dietrick. Or the same man over.
- Chance. In other words, they have the authority to keep that committee.

The motion was agreed to: Yeas, 9; Nays, 5.

USDA Production Goals

(Appendix, p. 67)

- Young. May I ask a question? I haven't seen those goals myself. Do they call for a corn reduction acreage?
- Cooper. I haven't seen the goals either.
- Young. That is a pretty important question.
- Cooper. The committee was dealing with the general principle of setting up production goals. You have a good committee that it rests with now.
- Young. I'd like to raise this question in another form. The new goals call for a reduction in feed crops. I would like to suggest that if that is true, it will penalize very heavily the Southeast and the southeastern seaboard.
- Cooper. Is there anyone who can answer that question or will answer it, if he can?
- Gaston. I can't answer it, because I haven't been following it. I do know there has been considerable discussion in regard to the continued use or not of the goals approach which has been used for two or three years, maybe four or five. I do know that a decision has already been made to change that approach. A newspaper item the other day carried the statement that they were cutting the goals approach out entirely. I do not know whether that newspaper item was entirely correct or not. I think that it was. How the general problem of, shall we say,

PRODUCTION GOALS

- Gaston. for lack of a better term, outlook material will be handled, I do not know, but I am sure that a decision has been made to change the goals approach from what it was--what it has been for several years. Just what the new modus operandi will be, I do not know.
- Young. It will mean a reduction anyway, goal or no goal, no matter which way you want to put it. In feed crops, it will penalize all the best producing areas in the United States.
- Gaston. I will not disagree with you.
- Funchess. Mr. Chairman, is that in the background of this procedure that I have fought for years, got no support--is that out in the background that if goals are really put into effect because of surpluses, the South's economic throat is going to be cut? That is why I want to stay with it in this committee fight. Goals helped to stifle progress in the South during the war period. In my mind, there is no question on that point. Goals help to stifle progress. When there was an urgent need for the increase of food production of practically all kinds, we came out and had an increase suggested for Alabama of maybe 7 percent or 30 percent, or something like that, when really we should have been making every reasonable effort to get all the increased production that we possibly might have gotten. But we would have our annual meeting on goals, and Federal and State agencies would meet in a certain hall on our campus. Each time I would raise a row about it, and get run over, as I have been many and many a time, and when it was over and I had made my protest, each agency would go ahead. I don't know of anything that has hurt the South worse all through this war period when we had deficit production and an urgent need for increase to take care of the needs than this attempt to control and restrict production by setting up goals.
- Cooper. I can understand your viewpoint easily enough. I wanted to ask the question of whether there was any way of getting this up. I suppose that we could go back to the good old American way and offer a resolution as to what this Conference thinks or wants to say with reference to the goals question--the desirability or undesirability. I presume it is within the purview of this group to express themselves on it. That is the only way I know of to bring it to the attention of the committee. I don't have any idea of what committee is working on it in the Department either. You don't know, do you, Neil (Mr. Johnson)?
- Johnson. No. I did have the same impression that Mr. Gaston has that there will be a change, though, from the system that has been running for several years. I don't think there will be any scheduled goals State by State. There will be some indication of national need, but I haven't been working with it.

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- Young. I think any device, whether you call it a goal, or what you call it, that makes it more difficult for the South to grow feed crops, necessarily prevents us from making the adjustment that we have been trying to make for the last few years. That is one of the principal reasons why I am opposed to any device designed to interfere with the increased production of feed crops.
- Cooper. Dean Funchess, I originally assigned this to the Committee on Water and Land Use, and you are pretty close to that committee. Does that help the situation any, if the committee gets a chance to talk to you, or you talk to them?
- Clayton. As a matter of fact, Dean Funchess, when this was sent out, didn't it include the suggestion that the committee invite you to consult with it?
- Funchess. That is correct, but I didn't want to try to carry the burden singlehanded. It occurred to me that all of them might have what I call the wrong viewpoint. I feel a lot better over it-- I saw that newspaper report. The approach in the future may not be as bad as in the past. Let me tell you why I feel as keen about this kind of thing. I won't talk about the Valley. On Sand Mountain--most of you are familiar with it, at least--solid white population with very small farms, is practically a cotton economy--a little hogs, and a little more poultry, and, in the last few years, a little more dairy, but, until recent years, a cotton economy; a solid white community. Possibly thirty thousand farmers live on Sand Mountain. They produce almost no corn, just enough to feed the family and the mule. We deal with a production unit that we have operated now through about eleven crops. It is not a fly-by-night thing. We know where we are. We bought a 96-acre farm and organized to produce two commodities for sale--cotton and hogs. For the last eight years, Mr. Chairman, off of that 96-acre farm, operated by two families since we took it over in about 1937, we sell on the average 45 hogs--I mean, 85 hogs, from that farm, about 45 average per family. That is in an area that has approximately two hogs per family. What we do, every reasonable farm of these 20,000 can do, because all we have done is increase the yield of corn economically and fed the hogs. Now, establish for that in terms of percentages, you gentlemen in economics, and see what your percentage figure will look like, if it increased from 2 per family to 30, say. What does your figure look like? That is economically possible. When we bought the farm, it had a government allotment of 17.2 acres of cotton, and we have never varied from that half an acre. The average yield has been around 24 bales. The sales run around four to five thousand dollars now with high prices of cotton. The boys have made money; two families. What I am asking is, "What would the goal percentage be for the average Sand Mountain farmer"? He's got two hogs. If he were given a 15 percent increase, it would give him a fraction of a hog.

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- Cummings. Dean, that farm is operated by the experiment station, isn't it?
- Funchess. We supervise it. We've got two men over there, and they don't get a bit of help; it's absolutely a practical farm. There are two laborers hired.
- Cummings. It is what you call a pilot farm in that area?
- Funchess. It is a pilot farm.
- Brown. They are not tenants, are they? You hire them?
(H.L.)
- Funchess. We hire them.
- Cummings. Wouldn't you say the adjustments along the line you are talking there are one of the most basic factors in the soil conservation program?
- Funchess. I don't know. We haven't looked at it from that angle. We have simply taken the same cotton acreage that the original had; we have cleared up some of the land he let go idle; and we put the corn yield up now around 45 bushels, and we feed the corn to hogs.
- Cummings. The adjustment we are thinking about on sloping land toward dairying enterprises is certainly one of the most basic things toward soil conservation in the area, and unless we can make adjustments in that area, we don't feel like we can achieve soil conservation.
- Funchess. We have a lot of areas where what you say would apply 100 percent; most of our Piedmont is in that category. The point I am talking about is what kind of percentage increase would you have for this average Sand Mountain farmer who had two hogs per family. Would it be 17, or 15, or 27? The kind of goal figures we got here during the war did not make sense when applied to situations like that on Sand Mountain.
- Cooper. I know what our Kentucky mountain corn did under that situation.
- Funchess. The crux of the thing is, what if they cut that cotton allotment half in two?
- Brown. Your cotton acreage would have to be reduced. If everybody made 24 bales on 17 acres, then there would just have to be fewer acres.
(H.L.)
- Funchess. We are moving in that direction now.

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Brown. Sure you are moving in that direction. You can't increase your
(H.L.) livestock or your food crops . . .

Funchess. Are you agreeing with me, or not?

Brown. I am agreeing with you.
(H.L.)

Funchess. On the one hand, we go to Washington and appear before Congress and committees and say, "For God's sake, put up more money for this and more for that and more for the other," all to help the farmer. Then they come along and say, "Maybe we had better reduce this, or reduce that; there is a great surplus," when in the southern States you are not producing enough of the basic commodities to supply the needs of the people in those States. What is the matter with them?

Cooper. I think, Dean Funchess, that everybody appreciates the viewpoints that you have and your past experiences. After all, the viewpoint of the necessity of production, from the standpoint of our southern areas, certainly stands out and, of course, the point you are bringing up is what can be done about it.

Funchess. All of this stems from what I thought I understood--and sometimes I get confused--the statement I thought I understood was the move to set goals for the Tennessee Valley.

Cooper. As mentioned, I believe there was--a couple of years ago, wasn't it--a move to have something of that kind set up. As far as I recollect, it died burning; at least, it died. I haven't heard anything, Dean, for a long while about it. Do any of you men know?

Clayton. It is certainly alive, insofar as this item in this report is alive. One angle of it that will come up will be the question--if the Department is going ahead with this goals business the way it has in the past; Is it desirable that those goals be broken down for the Tennessee Valley and looked at from the standpoint of their implications for the program that these colleges and the TVA are working on here in the Valley? That is the way it came up before; so that question is just as much alive as the general issue is.

Funchess. A new approach to goals from Washington is one on the basis of outlook, so that the farmers are advised that they are going to have serious problems in this field or that field. I would support that 100 percent.

Jones. Dean, would you care to make a motion along that line?

Gaston. Dean, to help you a little more, I know that the old approach is out. Now what the new approach is, I do not know. My best

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- Gaston. opinion is that, insofar as the goals concept is concerned, it will be the outlook approach.
- Funchess. I'll support an outlook approach. This man knows that he is going to face severe competition and mediocre production. I'll go with you all down the line on that, but there never has been a goals program promulgated for the South during this last war period.
- Cooper. Dean, under the arrangement that was made, namely, the referring of this question to the Committee on Water and Land Use, does that give us a vehicle to get the thing, possibly, before committees or individuals in Washington who may be engaged in it?
- Funchess. I would say, as a personal opinion, that if the Department is--and I am not placing the responsibility on either of these gentlemen for saying that it is--if the Department is going to have a completely new approach, and maybe we'll have an outlook program, all well worked out and well advertised, I don't see any point in this committee's meeting and discussing it.
- Cooper. Unless the committee knows that the thing is in a form that pleases them, I suppose that it would be advantageous, as you view the situation, that the committee should make its suggestions.
- Young. Dean, this is such a serious matter with me, so important from my viewpoint--the point of view I am thinking--that I wouldn't delegate to a committee, to anybody in Washington, unless I knew what their report was going to be. They are not going to represent me.
- Cooper. You are on the committee. Oh, excuse me, I'll take it back. That committee is Chance, Baker, Davis, and Gaston.
- Gaston. I agree with Dr. Young, absolutely.
- Chance. I think the Conference should have a say in what the committee's report should be.
- Young. The point I am making, Mr. Chance, is that if this small committee is reporting to the committee in Washington and says, "This is the consensus, or this represents the opinion of the Conference--well, it doesn't represent my opinion, in case it recommends goals. If I had a chance, I would file a minority report. I think as a practical measure that this committee ought to poll this group, to find out what they do think.
- Clayton. Any report they get up would come here, Dr. Young.
- Young. Before they report or afterward?

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- Clayton. Before, certainly. It is just routine procedure.
- White. Mr. Chairman, I am wondering if the thing became so urgent, it wouldn't be in keeping with the policy of this Conference to instruct the committee on the principle that should go into the report. I see nothing wrong with that. We will say that this report, if it is going to be effective, had to be filed by November 1. Under normal procedure, it would get no chance to get back before this group. It seems to me that if the issues are clearly drawn, and there are two sides to this thing--one is a nongoal side and one is a goal side--it certainly could instruct the committee as to how the Conference felt.
- Funchess. If the Department of Agriculture tentatively plans to abandon their goals project--this is our committee here--why should they bother to consider goals for any area within the United States when the Department represents the United States? It seems to me a matter which might be left quiet. If the committee proceeds to consider goals for the Tennessee Valley, what value would that be if the Department continues with goals?
- Schaub. Funchess, do you think the question of goals of the Department, as set up since the war period, has affected one bit what the farmer did?
- Funchess. I do not know whether it affected what the farmer did on his own motion, but it was terribly stifling for me to sit in a room in Auburn and see all of us but the experiment station say, "We will accept the suggestion of 5 percent or 7 percent," with a self-satisfied attitude if we got 7 percent.
- Brown.
(H.L.) We might have doubled and redoubled our efforts.
- Funchess. We might have in Limestone County, and that is in the Valley. Eleven hundred farmers increased production without any limits set by goals, because they didn't have any. Now, are you going back and say, "We are going to strive for 9 percent or 7 percent," or something like that? Why shouldn't we say that we will produce every darn gallon of milk for the processing plants that we can, and double and redouble our efforts to that end, instead of saying to this committee: "We will have some X percent that will be satisfactory. We have done fine." That is what I am opposing all the way through.
- Young. Mr. Chairman, I would like to submit a motion. I move that this Conference go on record, or that this Conference instruct this committee, that it is opposed to any program which would restrict feed production in the Southeast on any individual farm.

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- Cooper. As you use the term "feed production," it means production for livestock.
- Jones. I second the motion.
- Gaston. I've got two points I'd like to raise: (1) Would you include by the term "feed" hay and other roughages--
- Young. Anything that goes inside of an animal.
- Gaston. And pasture?
- Young. Yes, everything that an animal eats.
- Gaston. The second one is a little more difficult; some people are going to be confronted with it: (2) Suppose that we, I mean 150 million of us, through the regular processes which we set up--our way of doing things--suppose we decide, for instance, that we are going to try to shove down, just a little bit, the production of corn. I happen to know, myself, of some individual farms in the Southeast that are just as much corn-producing farms as are farms right in the middle of the corn belt of Iowa. How about the fellow, if we make that decision--there will be somebody; I don't know who that will be--that will be confronted with the problem of how about those types of farms in the Southeast?
- Young. That doesn't concern me at all. My motion still holds. Those farms produce raw materials for food for livestock to eat. If you are going to have cheap, economical livestock for city consumers to eat; we presume we are going to have meat as well as raw materials; if raw materials, corn. I think that about 70 or 80 percent of all the feed grains in the United States is corn, isn't it? Most of that corn is fed to livestock.
- Gaston. I am not disagreeing with you.
- Young. I am just bringing up that point. That includes everybody.
- Cummings. What your real objective in that is that it is not necessarily feed but production of livestock.
- Young. Production of livestock so that farmers can shift here in the South from some of the things they have been doing--have been forced to shift out of into a livestock program. The rest of the picture concerns the consumers. We are part of that picture. We are in the United States. So the consumers can have more and better livestock to eat.
- Cummings. What you want to go on record is opposition to any move which would restrict the production of livestock products on any one farm--not necessarily feed, which is just a means to the end;

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- Cummings. so if you put it toward the production of livestock products on the individual farm, that would take care of your situation.
- Young. I will amend it to read this way, Cummings: Which will restrict the production, either directly or indirectly, of livestock and its products. Would that include it? I mean to include the feed which the livestock eat, including the pasture, including the hay, and all the forage, and all the grain crops.
- Clayton. May I raise a question? I think we ought to have in mind, in voting on this motion for the Southeast, that, in a strict sense, this Conference is a conference of agencies that are cooperating in the Tennessee Valley. It is not a conference of the Southeast. We don't have South Carolina here; we don't have Florida here. In any event, I want you to have that point in mind in discussing the resolution.
- Hutcheson. Mr. Gaston, your objection to commercial corn growers in the South I don't think is sound. If we can grow this corn in our community for sale as feed in the South, it has the same effect as increasing it on the farm.
- Gaston. Dr. Tom (Dean Hutcheson), of course you know I believe that. I am not disagreeing at all. I am trying to point out that if we, the 150 million of us, make a certain decision, like it looks we are going to make, it is a problem someone is going to be up against. They are just as honest and objective people as you are going to find, and they are going to have to answer those questions.
- Hutcheson. You are not objecting to the principle? You are objecting to the complaint . . .
- Gaston. I believe in the principle--very strongly.
- Young. When you said 150 million, you let yourself in on something. You admit there are some other people not stopping, too, as well as the two pressure groups. You really mean 150 million?
- Gaston. That's what I mean--150 million. You set up certain processes by which to try to do things--the current estimate of us is about 150 million.
- Young. You know as well as I do that what happens is that a certain few of the 150 million set up some things to do that they want to ram down the throats of the other 150 million; and the others sit still and take it.
- Gaston. That works both ways.
- Funchess. Mr. Chairman, I want to raise this question in connection with what we are discussing. Isn't it possible, and highly probable, that the discussion of such a thing as goals--let us come back

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- Funchess. to the Tennessee Valley, the Southeast, as somebody mentioned awhile ago--doesn't concern us in this Conference--the whole Southeast? There will be more harm than good, possibly, coming out of that kind of discussion, by simply publicizing our hope that we may be permitted to continue to expand our program in feed growing and cotton. Now, isn't there more harm than good coming out of that kind of a discussion? There is no point to that committee's discussing that kind of thing, in my opinion.
- Young. Do you mean, no point in discussing the Southeast as compared to the Tennessee Valley, or no point in discussing it at all?
- Funchess. No point in discussing it at all. If we suggest any kind of restrictions, we run counter to every activity of the agencies working in every one of these States.
- Cooper. We have a motion before us, with a second by Dr. Jones--Dr. Young's motion. Dr. Young, will you please state your motion again?
- Young. I don't mind changing this to the Tennessee Valley. That this Conference instruct its committee that it is opposed to any program which would restrict the production of livestock and its products in the Tennessee Valley, or Southeast, if you wish, either one, either directly or indirectly, on any individual farm.
- Cooper. That is the motion you seconded, isn't it, Dr. Jones?
- Jones. That's right.
- Schaub. I want to say this. I heartily agreed over the years with Dean Funchess in his viewpoint. I have not taken it quite as seriously as Dean Funchess has taken it, for the simple reason that those goals haven't meant a darned thing since the war was over. During the war years, from a patriotic standpoint, it did mean something. From the standpoint of sending us down goals from Washington and saying, "Use 1,75 thousand acres for wheat in North Carolina," it hasn't meant a thing in the world so far as the action of the farmer is concerned. I think there is a very fundamental principle involved here, looking toward the future. I do not believe you can select out one commodity and put it under quotas and hold it to that one commodity. I think if you are going to do it for one group of farmers, such as tobacco, to use one illustration, then ultimately the other groups are going to call for the same kind of control. I make this further observation, Dr. Young. I favor your motion, but I think that we are absolutely inconsistent if we advocate control of tobacco, cotton, and peanuts--the Lord knows we have a monopoly on the tobacco--and think it can't be grown in these other areas. Now, how we can say we are going to hold a control on tobacco and not permit the livestock grower in

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Schaub.

other parts of the country to claim a similar privilege, I cannot understand. To me, the whole drift of government now is toward centralization, and I think the gravest danger that confronts the South at this time is that within possibly three years you are going to have commodity control all down the line, and we will be frozen here in the South to our cash crops. Maybe they can change the basis of goals and quotas so that there will be taken into consideration the necessity in a given region for changing the type of farm management so that we can come on up and get out of the category of economic problem No. 1, because if we are frozen to our cash crops, we will continue to be economic problem No. 1. I think that this thing is really a fundamental problem of the future of government and one that needs more careful consideration. I think that over the 15 years we have been going through this process, that it is an insidious kind of thing, and it gets votes. The man who is getting 5, 10, or 20 dollars, or even 50 dollars a year to get him to do certain things, in the course of 15 years has now reached the point where he feels it is right to keep this demand out of the public. How you are going to change it, I don't know, but just as surely as you continue on with the processes you have for a few more years, somebody in Washington is going to tell you exactly what you can plant on your farm and what you can't; and when you come to vote on this motion, if you want to be consistent, you have got to expand it, and you have got to include these other commodities. I don't know the answer to it. I don't know what the ultimate effect is going to be. But I can't see how you can say we are going to grow tobacco, and you can't, but we want to grow all the livestock that we want to grow down here. If we are ever going to use our land and resources down here, we have got to come along with livestock. But we will be inconsistent, I say, if we set ourselves up and say that we are not going to permit any restrictions on livestock in this area, but we are going to demand restrictions on some of the other commodities that we have been growing.

Young.

I agree with everything that the Dean has said, only I state it stronger. I don't think that we have any moral right, any more ethical right, to have goals on tobacco than we have on any other thing. I think that morally you are right on that. We have no more moral right, or ethical right, to have goals on tobacco than we have on any other thing, but we have tobacco a special thing. I am not trying to justify it ethically or morally. Morally, I think it is wrong, perhaps. I don't know. But we have tobacco, a product which is handled, sold, marketed, and manufactured by an air-tight monopoly. Under that system, why have isolated, scattered farm units that have no bargaining power between these isolated farm units and that monopoly? Now there is one thing that it does, and the only thing it does, as far as I can see, and that is to set up in the United States another limited monopoly, a limited farm monopoly, which gives farmers in this

PRODUCTION GOALS

Young.

country an equality of bargaining power with monopolies to handle the product. This is a limited monopoly, a limited farm monopoly. It is limited to the United States. It is not limited to the world. And right now we are pricing ourselves out of the foreign market. I don't think there is a bit of question about that. If we should ever surrender our rights to goals, I think that we would find in a few years that we had already surrendered our foreign markets, that we had subsidized competition all over the rest of the world. That is one of the things that I do not like about this business. We have done the same thing in cotton. In fact, I think you may have heard that somebody in Egypt was considering the erection of a monument to Mr. Wallace for helping them produce more cotton. That is a pretty important thing with us. I would do away with the whole thing, but if there is any excuse, it is with tobacco. I have studied the economic history of Rome over the last twenty years, and they started out with a limited bureaucracy, and they ran into Julius Caesar. We are following along in their same footsteps, almost exactly, step by step, and we have gone a long way. It is farther than we think.

Cummings.

I would just like to supplement one statement that has been made here, to the effect, as the Dean (Dean Schaub) pointed out, that the South has been referred to as economic problem No. 1. It has also been referred to as conservation problem No. 1, and, I think, with considerable justification, and Nation-wide, we are committed to a program of soil conservation. One of the reasons that we can't accept the restriction along the lines indicated by Dean Young's motion here is the fact that it runs exactly counter to the solution of that conservation problem in this area. I think that is one thing that we must continually keep before ourselves and before all those who are concerned with determining policy along this line. It seems to me it is one of our very telling arguments.

Young.

We are economic problem No. 1. I would like to amend that statement. We are unexploited opportunity No. 1. I think there are more unexploited opportunities in the South than perhaps in any other part of the world, or the United States. To illustrate this, in Virginia we have $5\frac{1}{2}$ million acres of pasture land which is undeveloped. And we have a lot of idle land, as you do in every other southern State. Those lands are unexploited opportunities, and if we permit goals to be established, iron-clad goals, we will interfere very seriously with the exploitation of our undeveloped opportunities.

Gaston.

This is something I believe in as strongly as in what Dean Funchess has been talking about. For one, I do not think that the people in the South are going to carry forward the connotation of Dean Young's motion until there is something else that happens. It seems that we--and I mean 150 million

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- Gaston. of us--are committed, probably, to some kind of controls on cotton. For one, I do not think we are going to care for those connotations, Dean, until the people down here develop some kind of a basis or approach that is reasonable, practical, fair, equitable, other than the historical base for determining acreages on controlled cotton. It hasn't been done yet and what little I have been able to observe--and I was right in the middle of it for awhile--generally speaking, the people of the South--and I will say both farmers and professionals, excepting neither group--have taken the line of least mental resistance, knowing that it was wrong, knowing that it--the historical principle--wouldn't lead ultimately to the best results.
- Cummings. Mr. Chairman, I would like to move, if I may at this time, that we table this motion so that we don't have to vote on it yes or no.
- Cooper. Your motion is to table the motion; not going beyond that?
- Cummings. That is right.
- Brown. I second the motion.
(W.S.)
- Young. I offer to withdraw my motion, if it is all right with my second.
- Jones. Let's let them vote on the tabling.
- Cooper. The motion on the tabling is before you.

The motion was agreed to.

LUNCHEON

The Conference recessed for lunch at 12:15 p.m. At the luncheon session, Dean Harry L. Brown, College of Agriculture, University of Georgia, addressed the Conference. Dean Brown's statement appears in the appendix, page 72.

The Conference reconvened at 1:45 p.m.

Next Meeting of Conference

(Appendix, p. 67)

- Clayton. We are scheduled to meet the next time in Mississippi. Whether Jackson is the best or most convenient place to meet, I don't know. I talked to Director Jones about it.

After some discussion, it was agreed to request Director Jones to suggest a meeting place in Mississippi.

ADDITIONAL PROPOSALS AND RECOMMENDATIONS

Correlating Committee Publication

(Appendix, p. 68)

PROGRESS REPORT

Classification and Analysis of Farms in the Tennessee Valley

(Continued from p. 17)

Valley Farm Classification and Analysis Study, Haywood County, North Carolina (appendix, p. 62)

Johnson. The statement which Dean Cooper just read forms a very good introduction to what we have to say this afternoon.

Mr. Johnson's statement appears in the appendix, page 77.

Johnson. Without saying anything more at this time, I would like to introduce Sam Atkins, who has been field party leader on the job. I would like to say before we do that that we have had wonderful cooperation all the way around the board in support of this work. Every agency that has been a cooperating party has really been in there pitching. We are very grateful for that. I should like to have Sam (Mr. Atkins) take over now and give you the real meat of what we have been doing. We fellows up in Washington aren't nearly as close to these jobs as we ought to be, but I would say that this has been one of the most interesting research jobs I have ever had the good fortune to be connected with.

Atkins. Before I attempt to give you the results of the project, I think I need to remind you that the work was done by a working committee, of which I was a member. I think we need to note the names of these gentlemen who worked with me on this. From North Carolina, we had Mr. Moyle Williams, who, I believe, is on the staff of the extension service, and represented the extension service and the station. We had, representing the Soil Conservation Service, Mr. John L. Brown, whom we have with us here today. Representing the Bureau of Plant Industry, and cooperating with TVA, I believe, is Mr. Lester Odom. Representing TVA Forestry Relations was Birger Ellertsen, who had almost got his work finished when he was transferred to another division, and Charlie Tropp took over in a very fine way and finished the job; while I represented the Bureau of Agricultural Economics.

The committee hadn't gone very far in its work last year until

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Atkins.

it recognized that we needed a photographic record of the agriculture in the county; so we started making up a list of scenes and situations that we would like photographed. By the end of the field work in the spring, we had quite a list, but we didn't have a photographer. John Brown came to our rescue on that deal and arranged to get a regional photographer from the Soil Conservation Service, Mr. Bush. John (Mr. Brown), Mr. Bush, and Mr. Ellertsen spent about four days in the county taking photographs, about 104 shots altogether, each shot taken in black and the same shot taken in color. We thought it would be a good idea to show you some of these pictures; so we asked John (Mr. Brown) if he wouldn't come down and show us the pictures. He has selected some which will set the scene for the research reports.

Brown.
(J.L.)

Gentlemen, it is my part of this to show you a quick trip through Haywood County, as we saw it, as we studied its problems there. Mainly, the problems that came up in the county are represented in these pictures and sort of give you a problem a little different than perhaps the one you talked about this morning. Instead of land lying sort of flat, or with a little hill once in awhile, you are going to see something a little different in these pictures. This is a typical mountain county. I presume you know where it is. It is the next county west of Buncombe County, in which Asheville is located, or Haywood County. The county seat is Waynesville. The terrain in this county varies from very flat valleys, very productive, to mountain top; and I wish to say here that we have three soil associations. One major soil association represented in Haywood County is known as the Hayesville-Halewood soil association. Two minor soil associations are the Porters soil association, found on the tops of the mountains, and the Ramsey soil association, which is also found on higher elevations, and a rather poor soil type.

This (slide) represents our general picture of all of the land groups or classes which we have in Haywood County. That in the foreground being your bottom land; a little more slope, and perhaps some colluvial deposits from the hillside from natural erosion, has caused class 2 land, being a little steeper; classes 3 and 4, which you see in the pastures in the background; and, of course, on the hills in the background, we find class 6 and class 7 land. We find at the top of the cove, looking down toward the valley, which we just saw a picture of (the valley at a distance is the bottom land), and these are the coves at the top. They are not so productive as the bottom lands and lend themselves chiefly for pasture use, and are one of our problems in Haywood County.

This is a typical mountain farm, and you find it in Haywood County. That in the middle of the picture is a very good

FARM CLASSIFICATION AND ANALYSIS: NORTH CAROLINA

Brown.
(J.L.)

example of Tusquitee colluvial soil which has come off the mountain some time in the past and deposited in the valley there. The amount of that land available in the farm will, to a certain extent, determine the productivity and the ability of that farmer to have a diversified type of agriculture. This is, of course, the money crop in Haywood County--burley tobacco; it is one of the money crops, I should say. It is grown on colluvial bottom land along the Pigeon River, which is seen at a distance to the right.

This is a rather interesting picture of a property-line fence. I think you could carry a little discussion on that, probably. The whole hillside was in one field about 12 or 14 years ago, and since then there has been a division in the ownership of that land. The man at the left, a test-demonstration farmer, has sown some grass on his hillside, and you see the results, although taken at this time of year, in June, it was not as successful as it is at some other time of the year. You can see at the right what lack of these things has done to the pasture. Also, the farmer told us that the steep hillside, where you see those rills going through it, was in corn two or three years after the other was taken out of cultivation. Coming down to the foreground, by the mill there on the left, you will see alfalfa and its effect. He had already cut two crops of alfalfa off of it. On the right is the lespedeza field, which, of course, he only got one crop off of that year. Coming farther down to the foreground, you will find burley tobacco, the cash crop, on a mature colluvial soil; and on the other side, he is also raising burley tobacco. The difference of the tobacco plants is very noticeable. They were cut on the same day, but these on the left were at least two to three inches taller than those that are on the adjoining field on the right.

As I told you, we are presenting some of the problems that will occur on some of the farms in Haywood County. You will see some "cat walks" or "cattle walks" around the edge of the hill. That pasture happens to be on 60 percent slope. It is a native bluegrass and white clover pasture, and it looks better there than it really is, because we have a lot of soil drifting out from under those little shelves that the cattle have formed there, and a great deal of erosion. That is on a hillside--Ashe soil which is rather difficult to hold under the best of management, and that is where they are trying to pasture cattle. That is not so many years out of forest, because some is still there, and we do not have a good sod. That is, of course, obvious. The problem is plain there: Too long in cultivation with no permanent cover, and it is past redemption. Now, instead of going in there and reforesting, which probably would have been the logical step, nature has taken over and is doing a rather slow job of it, but a sure job.

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Brown.
(J.L.)

This is the final results of such farms as that; that is, desertion after the land has washed away. It is practically growing up in woods all over, and the family has left that cabin.

Here is the kind of lands, bottom lands, which we classify as being the best lands we have; yet they do have problems. This shows the aftermath of a flash flood we had this year in Haywood County. I believe it was in June. The corn was up pretty well. Out of that hail there was practically an acre destroyed in corn. That is a stream-bank problem: controlling the flash floods. This farmer felt that that was such valuable soil, and he just couldn't afford to lose another year's production, and he knew he had lost his corn, so he got the bulldozer in there and pushed it all back in place; and I will say his land is ready to go again. That is one of the problems on our better classes of land.

The next two pictures were taken on a unit test-demonstration farm--Mr. McCracken. I think some of you are acquainted with him. He received the Master Progressive Farmer award this last year in Haywood County. That is his home, with a native white clover, bluegrass pasture in the foreground. This is a picture taken through his bottom land. Again you will see the true value and the true significance in how much that man can do, as represented in the amount of better types of land that he has available to cultivate in row crops.

Now we are coming to some of the case farms which we studied. This is a small farm, a dairy farm, showing the intensive use they make of all the colluvial areas. The draw coming down the woods there and along the little stream, being the colluvial group, or the deposit of soil through the years, and the productive soil; and, of course, to the right you have his pastures on steep hills. The small amount of better land is so noticeable that he has come up on the hillside in the foreground. That is a steep slope there, 15 to 25 percent. He has put his tobacco on that. This is one of the unfortunate things. Tobacco has been on that one spot seven years in a row. It doesn't show in the picture here; so somebody asked the other day in Washington: "Well, it doesn't look too bad. It hasn't washed so bad." But if you will look at the bottom, you will find a ledge there, about two feet, filled up, and at the top there is also a breakoff of about two feet.

There is that same tobacco field and the accompanying slope around it. This is an interesting picture to me. You will see his barn in the background. His tobacco has to go into the barn to be cured; so he puts his hay outside until the tobacco is cured in the barn and then, on another day, he picks up his hay and hauls it to the barn. I don't know that that makes too good hay practice, but it is one which they do have to practice in Haywood County.

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Brown.
(J.L.)

This is the same farm, showing the new type of grade A dairy which they are building in Haywood County. To date, they have 50 new grade A dairies which have been set up in that county this past year. Up to the right, at the top of the picture, you will see a rather gullied area which has just slipped away and is not furnishing any pasture at the present time although his cattle do run in it. It is a problem, and one of the things he is going to try to work on and bring back into a pasture program.

Coming to another farm, we have a large amount of colluvial bottom land. This, also, is a rather progressive farm and has more possibilities than perhaps a steep hillside farm. You can see in the background some of the steeper land he has attempted to bring into pasture. That, incidentally, is one of the few farmers in Haywood County that is raising small grain for grain purposes. That pasture has not been too long away from timber and yet we do not have a very good cover on the land, due to its steepness and problem of establishing pasture. It is questionable whether that land should ever have been taken out of woodland.

Now we are going to the steeper mountain sides. This is a rather interesting farm. It is one of our problem farms, but still the way the man is handling it, he is doing a pretty fair job of it. This is in the Ramsey soil association, which is one of the poorer types of soil that we have in the county. That is woodland, some of it patchy fields, which we see off to the left there. That field and forest in the background are not on his farm. It is showing a very good quality of timber, and the forestry boys found that he has a great deal of forestry potentiality there.

This is the 2-room cabin in which his family live. This is a problem--a sort of social problem. That is the family that lives on this farm. They all look very healthy, and they all live in two rooms. This man owns a truck and hauls logs and lumber supplies for some of the adjoining farms there to the mills and to the railroads. That is the vegetable garden that they have on their place. These folks depend a good deal on their garden for their livelihood. All the children that are of age to go to school are going to school. They travel about 15 miles in a school bus to get to school, and they are all interested in the agricultural program. That boy has a 4-H calf. When the man saw us on the street in Waynesville, he was interested to know if the picture of the boy and the calf turned out.

That is another view of this particular farm. In that picture, we were curious to know how that alfalfa got its growth without any shoots on. We were looking for shoots at the bottom of the alfalfa. The alfalfa hadn't bloomed at this time, yet it was

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Brown.
(J.L.)

way up over our knees. The man asked if it was ready to cut, and we ventured a guess that it was.

This happens to be a beef cattle farm, which Sam (Mr. Atkins) will tell you about in his discussion. That also shows a limited amount of colluvial deposit which they have, compared with the steeper lands which they have on the side there, even if they plant some of it in corn. This illustrates one of the problems: that on the same farm, we have some good pastures and some bad pastures. That pasture has a certain amount of erosion taking place in the establishment of sod. That is between 45 and 50 percent slope.

Going up to the top of the cove, we have a typical high-mountain farm. Those are Irish potatoes on about a 60 percent slope. There is probably some soil loss, but, on the other hand, it probably has some potentialities from a harvesting standpoint. I should think a little fence at the bottom with a board fastened there would enable him to roll them into the bag without any trouble!

That is a vegetable garden at about 3000 feet elevation. It is on Porters soil. Note that rich brown color. That is one of our best mountain soil types. We have a very small amount of it in Haywood County. That is on the same association as Porters. We even have problems there of establishing sod on that steep a slope.

This is a Porters farm which we used in our sampling. To the right you will see a stretch of colluvial soil. It is a very long stretch. It runs from the top of the mountain in the picture clear down to the orchard. That is a 15 to 20 percent slope, but it is some of the deepest, blackest, richest looking soil that you could possibly think of.

This is back in the Hayesville-Halewood soil association and represents some of our mountain pastures in the background.

Atkins.

I believe you fellows will agree that those colored slides gave us a better picture of the agriculture in the county and some of its problems than any word-picture could have given us.

Mr. Atkins' statement appears in the appendix, page 78.

Cummings.

Is that D slope on the screen now?

Atkins.

That is D slope and is a scene of this area in here. That tobacco field you see on the screen is in this area here and, as John (Mr. Brown) said, there are no gullies but there has been erosion because the top is a foot or two lower than the soil just above it, and it is piled up at the bottom. Back of this is some pasture that I guess you can't see. Below is in pasture,

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- Atkins. all the way over here on the hill. That is showing the building here, looking at what seems to be eroded pasture, but it is covered up very nicely with bluegrass and white clover.
- Cummings. Is that a gulley in the right-hand part of the picture?
- Atkins. That is an area he is beginning to think a little about but hasn't done very much about.
- Cummings. What would his income approximate, on the 1949 price level?
- Atkins. His income under the 1945 price level was approximately \$2400, compared with his present income of \$1024. Now, that is using a wholesale grade A price of about \$4.85. If wholesale milk should drop to the average of "Shade Tree" and grade A, \$4.05, then you would have to take off about \$700 from the \$2400.
- Young. Did you vary the fertilizer recommendations?
- Atkins. No. In just one moment I will hand out a sheet showing the fertilizer recommendations. The fertilizer recommendations on the corn would be upped a little bit over what this farmer is following. The pasture fertilization would be increased considerably. He is now putting on a little phosphate--I believe about an average of 30 pounds annually.
- Young. As you vary the price of milk, did you vary the fertilizer recommendations?
- Atkins. I mentioned the variation in the price of milk. If the price of milk should fall--we did not in that computation vary the fertilizer recommendations. There is a fine relationship there between fertilizer prices and the price of milk that maybe we didn't refine enough.
- Young. Did you use the 1945 price for beef?
- Atkins. Yes.
- Young. That is way out of line with what we consider normal prices.
- Atkins. What normal would you consider? '10 to '14? '35 to '39?
- Young. Either '10 to '14 or '35 to '39. The point I am making is this, that ordinarily there is far less extensive use of land for dairy cattle than for beef cattle. On small farms, it is almost impossible to make as much income from beef compared to dairy cattle, unless prices are out of line.
- Atkins. I have checked a little on that. They weren't badly out of line. I had the same idea as you, but it didn't turn out so badly. It is true, and it runs all through this study, that beef organizations would just barely pay 5 percent interest on

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- Atkins. the farm investment, after deducting cash expenses and allowance for normal depreciation. The operator doesn't have very much, if any, left for his labor. A good many farmers don't like to milk, and they can afford not to milk, because they own the farms. Also, many of them are old. They are content to sacrifice some income to milking cows.
- Schaub. Less than 2 percent of the farms in that county had a mortgage debt.
- Atkins. I haven't checked that, but I'll bet that is about right. I might say that the farmer on this case farm had built that grade A dairy barn you saw on the screen, paid for it, bought a new truck, and reported that he still had a little money in the bank.
- Johnson. Income and expenses with 1940 prices are shown at the bottom of table 2; thus, comparisons of the financial situation under 1940 and 1945 price levels may be made.
- Atkins. I think we ought to take a look at the 1945 income data first.
- Young. I may be all wrong about the 1945 price being out of line.
- Atkins. You are partly right, at least. It is a little out of line.
- Hutcheson. Why, when he shifts to beef, doesn't he cut out all cultivated crops except tobacco?
- Atkins. We left about 4 acres of corn, I believe, for miscellaneous uses on the farm--to feed his work stock, 2 hogs, and 30 hens, and for family use. There is, of course, a trend toward grassland farming, as shown by studies in other areas.
- Hutcheson. I wouldn't go that far. I was just wondering if all this land you have in crops is needed.
- Atkins. Are you referring to the beef system?
- Hutcheson. Yes.
- Atkins. I didn't make myself clear, I guess, Dean Hutcheson. This field, shown in the top middle part of the map, would be out of cultivation under the beef system. The only cultivated land under the beef system would be the so-called "good" cropland along the stream and one-fourth of that field down at the right. I am glad you brought out that point. That is important.
- Cooper. I should think they would grow more tobacco if you were going into beef.
- Atkins. That is one assumption that might be made. We just wanted to do that, Dean Cooper, but assumed the acreage quotas would be on; so we just went along with the acreage control program. The farmer would have labor to grow another acre of tobacco under the

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- Atkins. beef system. In fact, under this system, he would use only 2100 hours of labor, which isn't enough to keep the average family busy. Under the dairy system, he would use almost 4000 hours, which is enough to keep an average size family busy.
- Young. I'd like to ask a question about milk production per cow. At present, the milk production is 5000 pounds per cow. Under the revised system, it would be 6000 pounds per cow for grade A and 5000 pounds for grade B. Is that the same cow, or does it anticipate a different cow?
- Atkins. It assumes about the same quality of cows. He has a pretty good grade, but we wouldn't improve greatly on those; maybe some increase.
- Young. The difference in production would be due to better feeding then?
- Atkins. Yes. The better quality of the hay, Dr. Young, would enter somewhat into the expanded production. He is using a very low quality hay and is trying to make up by buying 24 percent dairy feed; not entirely. You will notice he is using very much more concentrates per hundred pounds of milk at present than he would use under the alternative, and he would have a better quality pasture in that ladino clover than he now has in the bluegrass pasture.
- Young. That is a pretty complicated question.
- Atkins. It is one on which we do not have too much research information, Dr. Young, and if I were listing some needed research, that would be one thing. Relationship between the carrying capacity of pastures and production is another thing that we don't have too much information on.
- Young. When you are shifting from a dairy setup to a beef setup, you assume that the value of the farm living will be the same in both cases?
- Atkins. That is our assumption as the easiest way out of that situation. What do you have in mind, Dr. Young?
- Young. Cottage cheese, cream, butter, and things like that.
- Atkins. He would have a milk cow. They are living pretty well, and we assume that they would be living no worse under our reorganized system. There is some question there of how much the reorganized system might furnish; and that is a problem for further investigation.
- Young. When you change the price level from the 1945 price level to the 1940 price level, do you maintain the same rates of feeding per animal unit?

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- Atkins. Probably not, but for this computation we are assuming that. Actually, in your thinking, you might very well change your relationship between the practices and the price level.
- Young. That is what the farmers do.
- Atkins. They may use less fertilizer then; that is true, but for this study, it gives some indication of what might happen by just a simplified method of assuming that he would follow the same practices.
- Young. In the case of dairy cows, they would probably increase the amount of roughage.
- Brown.
(J.L.) I think that that would probably be true in this man's case, and I think it would be reflected in this fact of dairying on his farm, because, as was said, when we went to him first, he was a "Shade Tree" dairyman, and when we came away, he was a grade A man. I assume that alfalfa had come into the picture, or a legume crop, instead of the cane. That is a matter we do not know. What we were curious about when we were studying him was how he was doing with that cane. I will say this: that he had some very good-looking cows.
- Atkins. I might say that we did assume a different feed relationship for the "Shade Tree" dairymen than we did for the grade A. If I figure it through on a "Shade Tree" milk price and grade A practices, that fellow would really lose money. Farmers don't do that; so we backed up and took a more realistic approach and changed the feeding practices on his "Shade Tree" organization.
- Schaub. What is the reaction of the farmer to these shifts? Did you discuss them with him?
- Atkins. We discussed them before we made them. We had these shifts pretty much in mind; in fact, as I said, he had already shifted his dairy system. I don't know that we discussed with him taking some of his pasture out, but we did discuss this strip crop yield, and he admitted that he wasn't getting the hay production that he ought to get and that strip rotation would probably be the answer. I don't recall his reaction to taking some of his pasture for crops. He had shifted to a grade A dairy.
- Hutcheson. Did you have anywhere a record of the number of pounds of fertilizer he is using to the acre on his farm?
- Atkins. Overall acreage? No, I don't. We figured for each crop. If you are speaking of an average fertilizer figure for the open land, we don't have that figure.

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- Hutcheson. I figured he was too low on his fertilizer, and maybe you are not high enough now, if you take all the acres on the farm.
- Atkins. Well, he would use 400 pounds 0-12-12 per acre annually on that ladino clover pasture.
- Young. I'd like to ask Doctor Cummings a question. Do you have in North Carolina any experiments designed to discover the effect on crop yields of fertilizer applications on soil types like this at this elevation?
- Cummings. Yes, we do have.
- Hutcheson. Just one question. You, as far as I saw through your discussion, never charged up any interest on the investment in the land. I understood from a visit through that county that land values run all the way from \$300 to \$1000 an acre. Wouldn't it be better for those farmers to sell that land and not work at all and get more income?
- Atkins. No, we have figured that in. In the financial summary in table 3 (appendix, p. 92), there is a charge for interest on land and other capital investments.
- Hutcheson. That was figured in when you got your net income?
- Atkins. Those net cash farm income figures I gave you were computed before I took interest out. However, we did deduct interest to arrive at a net labor return figure, as you can see by referring to table 3.
- Hutcheson. What was left after you took the interest out?
- Atkins. Even on some of those good beef cattle farms, not very much. I think one of the large beef cattle farms actually had \$300 left after interest. On the dairy farm, you can have a pretty good sum left after interest. We tried to be reasonable and we got estimates from farmers on what they thought land was worth for agricultural purposes. For the good land, it was \$300 an acre, but you couldn't buy it for that.
- Johnson. We hope to have all this material available; and I think we need to apologize for the group for keeping you as long as we have on it, and yet we felt we had to give you an idea of the thinking we have gone through in studying these case farms in considerable detail. Of course, the case is studied that way because it is representative, roughly, of the problems and opportunities of the larger group. I should like to read rather quickly the recommendations of the group that met in Washington. These are strictly the recommendations of the working group and nothing at all official--just something for you fellows to react to. There are about four or five people here today that were at that

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Johnson. meeting, and if I start getting off the beam, I hope they will correct me.

Mr. Johnson's statement appears in the appendix, page 96.

Cooper. Are there any comments or questions by the group here?

Hutcheson. Gentlemen, I should like to move a vote of thanks to these people for work which I know they did in line of duty, but they brought out some very important points.

The motion was agreed to.

Johnson. I should like to say that the best thanks the working group could have is for some of the research results we have been working on really to get into application in the county. This study is unique in that it pushed research a little further forward than most research groups do. We used the abilities of these men, but not just to obtain figures to put in a bulletin. This study was designed to be of value to agricultural workers primarily, and that is the group we are aiming for, hoping that we really can contribute something of value.

Brown.
(H.L.) Each of these twelve farms is an owner-operator proposition, isn't it--no tenants involved?

Atkins. There are very, very few tenants in that area. All the case farms we have are owner operated.

Brown.
(H.L.) The change in the agricultural picture, Dean Cooper, in Georgia--and it is not different than any other State in the Southeast, I am sure--indicates definitely that we need some research work on what is an equitable relationship between landlord and tenant on small farm operations where livestock constitute an important part of the farm program. Maybe these facts here, if analyzed, would help us determine what such an equitable arrangement might be or should be. On my own farm in the mountains, we are in the process of transition from so much production of vegetables to more livestock, and I don't know, myself, what is a workable, fair contract between the landlord and tenant in these livestock enterprises. This happens to be beef cattle.

Schaub. I don't know where we can go from here, but I would like to see this study in another area, if you have an area, that would bring in those facts.

Brown.
(H.L.) So would I. It indicates to me that there would be some very helpful information developed.

Johnson. I passed around three copies of the materials which we have on case farms in terms of, first, black and white pictures of the farms and then these three maps.

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Schaub.

Gentlemen, may I tell a little story about this county. Some forty odd 4-H club kids from this county went up into Iowa this last summer and spent a week living in the homes of the Iowa farmers. One of the interesting things that came out of that was (they went up in buses, and, of course, the people in Iowa were there to receive them): They noticed when they got out that the Iowa folks seemed to be just a little bit surprised or something. They didn't know just what, but the welcome wasn't just exactly as they anticipated. They didn't learn until after they had been there three or four days as to what it was. After they began to get acquainted, then their Iowa friends told them: "We were very much surprised. We thought that at least half of you would be in overalls, a good portion of you would be barefooted, and there would, at least, be two or three negroes in the group." The Iowa group further explained then that all they knew about the mountains was what they had seen in the movies and had read in various publications; so they were very much surprised at the character of the group when they got off in their nice dress and behavior. In quizzing the kids, the Iowa people couldn't understand, and wouldn't believe, that they had bathrooms, electricity, and things of that kind. It was just utterly foreign to their concept of what you would have. Incidentally, on that, each of the girls, in the families in which they stayed, made cornbread and biscuit for them. The girls said that they couldn't make good cornbread out of that yellow meal, but they said they never saw people eat biscuits as much as those did. Now, this coming summer, a similar group of the Iowa kids are coming down to Haywood County and are going to spend ten days in their homes. I think it is a wonderful project that they have worked out there, because the conception of those people in Iowa as to living conditions down there in Haywood County was entirely foreign to the actual situation.

Gentlemen, I would like to ask a question of this: What is the next step on this report? Are you going to prepare a complete report covering it all?

Johnson.

I think we need an expression from this group on that. All our working group did was to say that we believed the material should be made available for agricultural workers. If we put out the set of maps that we have now, it would be quite an expensive publication. I think the study has interest to a research worker in general, but also, for a limited group, it should have the more detailed working materials.

Schaub.

I should like to assure you that we have an organization in that county that would follow up. I would like for us to do that this winter if we could. I presume that you would have most of the material that we could use in such a way.

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- Cooper. Mr. Johnson, didn't you indicate in the early part of your statement that there should be a group organized here to study this material and to indicate whether it could reach out farther or additional questions that could be answered?
- Johnson. We certainly would appreciate an expression from this group on what you think ought to be done. As I said before, our working group is just giving us something to react to, and I expect it is very difficult to do that, when it is slammed at you as fast as I gave it to you. If you want to take more time and go over some of those ideas in more detail now, I am willing to stay with you, or you might think a smaller group ought to consider just what we do.
- Cooper. Dean Schaub and Mac (Mr. McAmis), wasn't the idea expressed some time ago that a committee or something in this group ought to make a study and be prepared to give us a statement as to recommendations?
- Schaub. Did either one of your committees that you appointed cover this phase of the thing?
- McAmis. I assumed that this report would be studied by this Special Committee that was set up here at the beginning.
- Clayton. My understanding is that the new Assistant Secretary of Agriculture has invited a group to meet with him in Washington on October 14. Included in that group are certain members of the Special Advisory Committee. So far as I know, everyone in that meeting is either a member of the Special Advisory Committee or of the Correlating Committee. I had in mind to recommend to the committee that I directly serve, that is, the Correlating Committee, to consider the advisability of making that meeting on the 14th a meeting of the Special Advisory Committee through which this thing teed off, and at that meeting, if it suits the Advisory Committee to do so, invite Mr. Johnson to be present and give a summary, perhaps not as long a one as we felt we could offer here, but a summary, a digest, of this job. Since that was the group that teed this thing off, it would seem logical that that be the group which should be asked to react to it; and that the reactions of that group would then flow through regular channels, and the thing would take shape that way. I haven't had an opportunity to review this with my committee, and I didn't have in mind to mention it here, but the discussion has taken a turn which suggests to me that this proposal might help to clarify the question. If that seems to be a logical procedure, that is one way we could handle it.
- Cooper. It seems to me we ought to expedite anything of that kind and move along insofar as we can see the way is satisfactory and clear. Certainly, we should move to the extent, at least, of beginning the work in other parts of the Valley.

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- Johnson. I'd like to say that we have 78 pages already written on this thing. It isn't ready for review, but it is sort of a hand-book of these different cases. Each farm is set up in the same way: Present organization, weaknesses of present organization, proposed alternatives, and then planning problems. We have tried to make it as brief as we can, but obviously any one meeting can never get around to more than one or two case farms to study in detail. It is not a book for easy reading, but it is the meat of the material that the group had wanted you to study.
- McAmis. Would the final report, so far as your group is concerned, be ready in time for this group to look at it either in advance, or at this meeting on the 14th?
- Johnson. We can almost hit that. We are well along. We have got all the discussion here of these 12 cases. The section that is missing that we want to put in is one that is very difficult and still would be awfully rough when we get through with it. It is one on: What would the aggregate effects be if a program of this nature were put into effect? It is what TVA has been wanting in terms of total fertilizer needs, total changes in crops and land use. We aren't saying we are going to have anything very exact on that, but at least we got the basis for an informed guess on it.
- Schaub. Is it your thought that these 11 cases can be blown up to a county level with reasonable accuracy?
- Johnson. We have sampled in a way that would permit that as much as any type of analysis lends itself to that particular treatment. I am sure that a blind blow-up of the results would be highly unsatisfactory. It would have to be tempered with a good bit of judgment and experience.
- Cooper. I have just been talking about how that group should get together to take it up, and I wonder if you (Mr. Clayton) would mind giving two or three minutes to the comments you made to me as to the group that should come together to get this material first-hand, and part of the discussions with Dr. Johnson, and then to get it into force--any ideas you had in mind.
- Clayton. To amplify what I was saying a minute ago, the practice is for the Correlating Committee to meet with the Special Advisory Committee. The Correlating Committee includes, as I think we all know, Dean Cooper, Mr. McAmis, and Mr. Dykes; so there would be three people that would be involved if we follow this procedure, that is, the Correlating Committee. And then the Special Advisory Committee, as it is now constituted, includes, for the Department, Mr. McArdle, of the Forest Service, and Mr. Will, of

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- Clayton. the Secretary's office. Those two people represent the Department on the Special Advisory Committee. The colleges are represented on that committee by Dean Schaub, of North Carolina, and by Director Davis, of Alabama; and the TVA is represented by Mr. Gant, General Manager, and by Mr. Bass, Chief Conservation Engineer. If we followed this device for reacting to this report and recommendations, it would amount to a suggestion that might come from this group that, if feasible, we bring together with the Assistant Secretary of Agriculture on the 14th, the Special Advisory Committee and the Correlating Committee, and that a digest of this material be laid before that committee, where the job originated really, and that we get then the reactions of that group, which includes representatives of all of the cooperating agencies. Any recommendations which develop there might provide a basis upon which to go ahead.
- Cooper. What do you think of that, Dean Schaub; will that fit all right?
- Schaub. Yes.
- Cooper. What do you think, Mac (Mr. McAmis)?
- McAmis. Yes.
- Clayton. I am pretty sure that the Assistant Secretary would be very glad to proceed that way. Do you have any observation on that, Lee (Mr. Gaston)?
- Gaston. No, I don't, Cap (Mr. Clayton).
- Clayton. I do feel that if this meets with general approval, it would be helpful if that were clearly indicated. It would give us a basis for getting an official reaction to the report.
- Cooper. After all, is there any alternative to something of that kind? I suppose one of the alternatives would be to do nothing, which wouldn't be very smart after all the work and time that has been spent on it. You always had in mind to do something with it, didn't you? There is no reason why the committee that represents the States couldn't get together on their ideas, determinations, and procedure.
- Schaub. I think that the working group has accomplished a whole lot, as I understand it, that the committee of the three agencies didn't. They have finally come to a reasonable understanding that this procedure was worth while.
- Cooper. Do we require a motion to get this into a formal stage so that it is legal, and everything else?
- Gaston. If it requires a motion, I will make it that the procedure Cap (Mr. Clayton) outlined be followed as nearly as possible.

FARM CLASSIFICATION AND ANALYSIS

Cooper. Undertaken, I presume, as nearly as possible.

The motion was agreed to.

Schaub. I think it needs a meeting of that committee within a reasonable time.

Cooper. Shall the committee meet before the meeting of the Assistant Secretary, or shall the committee meet after the meeting of the Assistant Secretary?

Clayton. My own suggestion was that this meeting of the Special Advisory Committee be substituted for the one that is scheduled to meet on the 14th, since the people who are going to be there on the 14th are on the Special Advisory Committee anyway. It would be a mere matter of including a few other people who are on the Special Advisory Committee.

Cooper. Is there any objection on the part of the group to this motion that has been passed to go ahead with the committees that have been referred to and attempt to get a start? Is there any question in your minds about that? If there is anyone on those committees who has any objection, I wish you would state it now. If there is no objection, we will go ahead and attempt to make a start.

OTHER BUSINESS

Cooper. The secretary calls my attention to the fact that on the agenda there is a place for "other business." Are there any matters of other business that you wish to raise at this time?

Clayton. If not, I should like to offer a word of explanation for the record. On the program, we have a report listed for Mr. Chance's committee. The matter which we originally had in mind for that committee to take up was deferred; so no report will be made by that committee.

The Conference adjourned at 4:30 p.m.

PROCEEDINGS

APPENDIX

TENNESSEE VALLEY AGRICULTURAL CORRELATING COMMITTEE

PROCEEDINGS

THIRTY-SECOND VALLEY-STATES CONFERENCE

The Ansley, Atlanta, Georgia

Wednesday, October 5, 1949

* * * * *

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* * * * *

ROLL OF CONFERENCE^{1/}Alabama

Funchess, M. J., Dean, School of Agriculture, and Director, Agricultural
Experiment Station, Auburn

Georgia

Brown, Harry L., Dean, College of Agriculture, Athens
Brown, Walter S., Director, Agricultural Extension Service, Athens
Hendrix, W. E., Associate Agricultural Economist, Experiment
Lebedeff, G. A., Associate Agronomist, Experiment
Murray, C. C., Director, Agricultural Experiment Station, Experiment

^{1/} See text, p. 7.

VALLEY-STATES CONFERENCE

Kentucky

Cooper, Thomas P., Dean, College of Agriculture and Home Economics, and
Director, Agricultural Experiment Station and Agricultural Extension
Service, Lexington

Mississippi

Jones, L. I., Director, Agricultural Extension Service, State College

North Carolina

Cummings, R. W., Associate Director, Agricultural Experiment Station, Raleigh
Schaub, I. O., Director, Agricultural Extension Service, Raleigh

Tennessee

Chance, Frank S., Vice Director, Agricultural Experiment Station, Knoxville
McLeod, J. H., Dean, College of Agriculture, and Director, Agricultural
Extension Service and Agricultural Experiment Station, Knoxville

Virginia

Dietrick, L. B., Director, Agricultural Extension Service, Blacksburg
Hutcheson, T. B., Dean, School of Agriculture, Blacksburg
Young, H. N., Director, Agricultural Experiment Station, Blacksburg

Tennessee Valley Authority

Baker, Willis M., Director, Division of Forestry Relations, Norris
McAmis, J. C., Office of Chief Conservation Engineer, Knoxville
Moon, J. W., Assistant Director, Division of Agricultural Relations, Knoxville
Seigworth, K. J., Chief, Forest Development Branch, Division of Forestry
Relations, Norris
White, E. H., Director, Division of Agricultural Relations, Knoxville

U. S. Department of Agriculture

Atkins, S. W., Agricultural Economist, Bureau of Agricultural Economics,
Knoxville
Brown, John L., District Soil Scientist, Soil Conservation Service, Shelby,
North Carolina
Crumpler, Roland, Chief, Conservation Materials and Services Division,
Production and Marketing Administration, Washington, D. C.
Gaston, T. L., Assistant to the Chief, Soil Conservation Service, Washington, D. C.
Johnson, Neil, Research Administrator, Agricultural Research Administration,
Washington, D. C.
Williamson, H. H., Assistant Director, Extension Service, Washington, D. C.

PROGRAM

Correlating Committee

Cooper, Thomas P., representing land-grant colleges, Lexington, Kentucky
 McAmis, J. C., representing Tennessee Valley Authority, Knoxville, Tennessee
 C. F. Clayton, Executive Secretary, Knoxville, Tennessee

PROGRAM^{2/}

Morning Session

- Opening of Conference Thomas Cooper, Chairman
- I. Report of Correlating Committee Thomas Cooper, Chairman
- II. Classification and analysis of farms in the Valley counties
 of Mississippi: Evaluation of results of project
- In relation to research program Frank J. Welch
 In relation to extension program L. I. Jones

Luncheon

Arrangements have been made for a group luncheon, to begin at 12:15 p.m., at The Ansley. At the luncheon, Dean Harry L. Brown, College of Agriculture, University of Georgia, will address the Conference.

Afternoon Session

- III. Valley farm classification and analysis study, Haywood
 County, North Carolina
- Introductory statement. Neil W. Johnson
 Summary of report Sam W. Atkins
 Recommendations Neil W. Johnson
- IV. Interim report of Committee on Water
 and Land Use Frank S. Chance, Chairman
- V. Other business
- VI. Adjournment of Conference

^{2/} See text, p. 7.

CORRELATING COMMITTEE

REPORT OF CORRELATING COMMITTEE^{3/}

by

Thomas Cooper, Chairman

✓ PROGRESS REPORT

Classification and Analysis of Farms
in the Tennessee ValleyClassification and Analysis of Farms
in the Valley Counties of Mississippi

This project was initiated on January 1, 1946, under a project agreement between the Tennessee Valley Authority and the agricultural experiment station and the extension service of Mississippi State College. A progress report on this project, dated July 1948, is included as Appendix I of the annual report for 1948 made by Mississippi State College to the Tennessee Valley Authority on test-demonstration work in Mississippi. The progress report, by Otis T. Osgood, is entitled: "The Northeastern Highland Area of Alcorn, Prentiss, and Tishomingo Counties, Mississippi--area, land use, and farms by kind of land and size of farm, 1947; A progress report on farm classification and analysis in the Tennessee Valley counties of Mississippi." In the time that has elapsed since the project was initiated and since the progress report was issued, there has, no doubt, been opportunity to evaluate, at least in a preliminary way, the contributions of the project to agricultural objectives in the Valley counties of Mississippi. We regret that shortage of time prevented us from hearing from Director Jones and Director Welch on this subject at the last meeting. However, they have consented to report today, and I shall interrupt the report of the committee at this point, in order that you may hear from them now.

Valley Farm Classification and Analysis
Study, Haywood County, North Carolina

Two progress reports have been made to the Conference on the study in Haywood County, North Carolina. Today, we are to have a summary of the results of that project. The Correlating Committee has asked that the project leaders develop joint recommendations, based on the results and experiences obtained in the Haywood County project, regarding the extension of the farm classification and analysis work to other portions of the Tennessee Valley. Therefore, some recommendations along this line may also be brought before you. In that connection, you will recall the suggestion made at the meeting of the committee of presidents with the Tennessee Valley Authority on February 7 that the college presidents of the various States write the Secretary of Agriculture, requesting an intensification and expansion of the pilot farm classification and analysis study to include other counties in States other

^{3/} See text, p. 7.

FARM CLASSIFICATION AND ANALYSIS

than North Carolina. So far as the Correlating Committee is informed, however, no letters were written pursuant to this suggestion.

Since 1943, the Correlating Committee, acting through various channels, has worked on the formulation of a project for the classification and analysis of farms in the Tennessee Valley. One consequence of this work was endorsement of the project by Secretary of Agriculture Anderson, in his letter of March 28, 1946, in which he says:

Preliminary discussions have been under way for some time with respect to a cooperative study in which the Bureau of Agricultural Economics, the Agricultural Research Administration, the TVA, and the land-grant colleges would carry forward a research project aimed at the classification of the different types and sizes of farms within areas having similar physical resources, so that results from the Unit Test-Demonstration Program could be soundly generalized in applying them to farms other than those on which the test demonstrations are carried out. The Department agencies are willing to get such a study under way in any one or more of the Valley States whenever the land-grant colleges and the TVA are ready to join in the undertaking.

In the same letter, you will recall, Secretary Anderson proposed the setting up of a committee, which was later established as the Special Advisory Committee. The work of the Special Advisory Committee was summarized by the Correlating Committee in a letter to the principals, dated July 26, 1948, and reported to the Conference at its meeting on October 6, 1948. In this summary, the Correlating Committee said:

At its meeting on January 31, 1948, the Special Advisory Committee recognized that progress was not being made by continued consideration and discussion of general administrative method and procedure in the Valley. The committee decided, therefore, to consider the possibility of jointly studying farms to determine soil conservation needs in the Valley as related to the regional program of agricultural development and watershed protection. By thus working together, it was hoped that the agencies would find a basis for subsequent common agreement on administrative method and procedure for working on the joint regional program in the Valley.

At the same meeting, the Special Advisory Committee agreed to set up a technical committee to prepare a project outline. The project outline, dated May 25, 1948, prepared by the Tennessee Valley Agricultural Technical Committee, was submitted to the Special Advisory Committee at its meeting on May 31, 1949, and adopted.

The project outline prepared by the technical committee and adopted by the Special Advisory Committee states that the job has two phases, as follows:

A. Grouping of Farms and Analysis of Representative Farms

It is necessary to know the problems and situation in the Valley in order to find out the total needs. This

CORRELATING COMMITTEE

can be done by grouping or classifying farms and making an intensive study of representative farms. In addition to providing a basis for regional programs, such a study would provide excellent information for individual farm planning.

B. Developing a Procedure for Preparing Comprehensive Plans on Individual Farms

This phase deals with working out a procedure for applying this program to an individual farm.

It was also proposed that one or more of three areas be utilized for the initial trial of the proposed method and procedure, as follows: Jefferson County, Tennessee; Graves County, Kentucky; and Haywood County, North Carolina.

As you know, the work was initiated only in Haywood County, North Carolina. However, the Correlating Committee is advised that the Tennessee Valley Authority has, by letter dated August 1, 1949, to President Brehm, and by letter of the same date to Dean Cooper, proposed initiation of the farm classification and analysis project in suitable areas of the States of Tennessee and Kentucky.

That is the background of the project on which we are to have reports at this time. After you have heard and discussed the statements and recommendations of Mr. Johnson and Mr. Atkins, the Correlating Committee will have some additional matters to bring to your attention.

Proposed Regional Film on Land Use

Director Davis made a statement on this subject at the last meeting of the Conference. The Correlating Committee is advised that there have been additional developments on this matter, which may be summarized as follows:

Director P. O. Davis called a meeting of all representatives in Atlanta on June 18, 1949. The TVA, South Carolina, and all of the Valley States except Virginia had representatives present. An agreement was reached on the production of a two-reel motion picture with the States and TVA agreeing to contribute approximately \$2000 each toward a total maximum cost of \$18,000 for the picture and other accompanying visual materials, such as posters, descriptive pamphlets, slides, etc., and in return would receive one print of the picture. The funds are to be paid within three budgetary periods, and at the end of the 1948-49 fiscal year between \$8000 and \$9000 was paid to the Comptroller of the University System of Georgia, who had been designated to receive and disburse these funds under order of the executive committee.

A regional film committee, comprised of one member from TVA and one from each State, was formed, each State member being subject to the approval of his dean or director. This committee was to plan and

STANDING COMMITTEES

produce the regional picture. The following were appointed members of the committee:

| | |
|-------------------------|--------------------------------|
| R. M. Reaves | Alabama Polytechnic Institute |
| S. G. Chandler | Georgia College of Agriculture |
| L. A. Olson | Mississippi State College |
| R. W. Shoffner | North Carolina State College |
| H. W. Whittenburg | University of Kentucky |
| E. C. McReynolds | University of Tennessee |
| W. M. Landess, Chairman | Tennessee Valley Authority |
| Thomas W. Morgan | Clemson College |
| | Virginia (not represented) |

From this Regional Film Committee, an executive committee was chosen, consisting of W. M. Landess, S. G. Chandler, and R. W. Shoffner. Each extension service was asked to name a State committee to represent the various phases of its State program in the planning of the movie.

The executive committee has met, established contact with the Southern Educational Film Production Service, and initiated the planning of the picture and the writing of the script.

Standing Committees

Membership

At its last meeting, the Conference established three standing committees, and adopted the following provisions regarding the membership of these committees:

The chairman of the Conference appoints to each committee from among the regular members of the Conference four committeemen, one of whom he designates as chairman. Each committee shall have a minimum of one USDA, one TVA, and one land-grant college representative. The chairman of the standing committee may, with the prior concurrence of the appropriate administrative official of the concerned agency, invite the participation of additional staff members in the work of his committee, taking into account the various skills and points of view required for the satisfactory study of assigned problems.

The following persons have agreed to serve on these committees:

Committee on Plant Facilities and Products

| | |
|-----------------------|---------------------------------|
| C. H. Young, Chairman | Tennessee Valley Authority |
| Walter S. Brown | University of Georgia |
| R. W. Cummings | North Carolina State College |
| Roland Crumpler | U. S. Department of Agriculture |

CORRELATING COMMITTEE

Committee on Rural Facilities, Services, and Industry

R. E. McArdle, Chairman
 Frank J. Welch
 E. H. White
 H. N. Young

U. S. Department of Agriculture
 Mississippi State College
 Tennessee Valley Authority
 Virginia Polytechnic Institute

Committee on Water and Land Use

Frank S. Chance, Chairman
 Willis M. Baker
 P. O. Davis
 T. L. Gaston

University of Tennessee
 Tennessee Valley Authority
 Alabama Polytechnic Institute
 U. S. Department of Agriculture

Meetings

It would facilitate the work of the Correlating Committee if standing committees will establish dates for their regular meetings in line with dates established for regular meetings of the Correlating Committee and of the Conference, as indicated in the following schedule:

| | |
|--|------------------------------|
| Committee on Plant Facilities and Products | Second Wednesday in November |
| Committee on Water and Land Use | Second Wednesday in December |
| Committee on Rural Facilities, Services, and Industry | Second Wednesday in January |
| Correlating Committee | First Wednesday in February |
| Valley-States Conference | First Wednesday in April |
| Correlating Committee | First Wednesday in July |
| Valley-States Conference | First Wednesday in October |

Membership of the Conference

The Correlating Committee recommends adoption of the following statements (which reflect current practice, except as to affiliate members) in regard to different classes of membership in the Conference:

Regular Members

Regular members of the Conference include: (1) the Chief of the Office of Experiment Stations, the Director of the Extension Service, other members of the staff of the U. S. Department of Agriculture designated by the Secretary of Agriculture, and members of the staff of the Tennessee Valley Authority designated by its Board of Directors; provided, however, that the

MEMBERSHIP

number of representatives for each of these agencies shall not exceed that recommended by the Correlating Committee; (2) the Dean of Agriculture, Director of the Agricultural Extension Service, and Director of the Agricultural Experiment Station of each of the seven land-grant colleges that are parties to the Memorandum of Understanding; provided, however, that a vice dean or a vice director may, at the option of the dean or director, also serve as a regular member when the institution would otherwise have less than three persons as regular members; (3) members of the Correlating Committee; (4) the chairman of each standing committee of the Conference.

Honorary Members

Honorary members of the Conference include the Secretary of Agriculture, the Chairman of the Board of the Tennessee Valley Authority, and the presidents of the land-grant colleges of the Tennessee Valley States.

Associate Members

Members of the staffs of other land-grant colleges and universities may become associate members when recommended by the Correlating Committee and elected by the Conference.

Affiliate Members

Members of the staffs of other public agencies, institutions, or organizations, may become affiliate members when recommended by the Correlating Committee and elected by the Conference.

All official actions and recommendations of the Conference require concurrence of its regular members only.

USDA Production Goals

The Correlating Committee met in Washington, D. C., on July 6, 1949, in order to facilitate discussion of this problem with officials of the USDA. Circumstances, however, prevented attendance of the departmental officials concerned. Accordingly, after a brief discussion of the subject, the committee agreed to refer the problem to the Conference Committee on Water and Land Use. Notice of this action was sent to the Committee on Water and Land Use on September 12, 1949.

Next Meeting of Conference

The Correlating Committee recommends that the next meeting of the Conference will be held in Jackson, Mississippi, on Wednesday, April 5, 1950.

CORRELATING COMMITTEE

ADDITIONAL PROPOSALS AND RECOMMENDATIONS

Correlating Committee Publication

At the meeting of the Correlating Committee on July 6, the executive secretary stated to the committee that a manuscript of a proposed publication, described as "a compendium of information and materials relating to the Tennessee Valley Agricultural Correlating Committee and the Valley-States Conference," has been prepared, and requested authorization of the committee to issue this as a mimeographed circular, subject to the willingness of TVA to assume the processing cost. On motion of Mr. Dykes, the committee approved issuance of the circular as a publication of the Correlating Committee, either in mimeographed or typewritten form, depending upon the arrangements that could be worked out for handling the costs involved.

This concludes the report of the Correlating Committee.

X CLASSIFICATION AND ANALYSIS OF FARMS
IN THE
TENNESSEE VALLEY COUNTIES OF MISSISSIPPI:

PROGRESS REPORT^{4/}
by
Frank J. Welch^{5/}

Background and Development of Project

For a number of years we, in the land-grant colleges and in the TVA, who have been responsible for research and educational programs in the Valley States have been interested in the development of methods and procedures for classifying farms in the major type-of-farming areas and soil areas. A project statement dealing with this subject was developed, and Mississippi was selected to initiate the work and develop procedures to be used in the other States. Work on this project was initiated in September 1946.

Scope and Objectives of Project

The scope and objectives of the project may be summarized in two overall objectives: (1) To group the different classes of farms, and determine their relative importance, within which adapted farming systems, soils, and other management problems would be reasonably similar; (2) To determine those farming systems and management programs most suitable for the various kinds of farms.

^{4/} See text, p. 7.

^{5/} In the absence of Director Welch, this statement was read by Director L. I. Jones.

FRANK J. WELCH

Accomplishments to Date

There have been two major contributions to research methodology developed in this study thus far:

(1) We have developed a method of sampling farms that combines advantages of area sampling and sampling by individual farms. It makes full use of the most complete and accurate information about farms in an area, as well as making use of all principles previously developed in sampling. This method is compared with the method used in drawing the Master Sample of Agriculture, in the current issue of the Journal of Farm Economics under the title, "Results of Two Sampling Methods Used in Farm Management Research."

(2) We have developed the basis for grouping or classifying farms by kind of soil or land, making it possible to record land uses, acreages, yields, live-stock numbers, and other farm data, according to use-suitabilities of the land of the farm. With this development, our analysis for farms in an area will not be limited to generalizations or averages, but will apply to specific kinds of farms. The basis for this grouping of farms is the land-use-pattern of the area; that is, the tendency of farmers in the area to use each of the different kinds of land for a specific purpose, because the land is better suited for that purpose and gives a higher net return than other uses. The pattern does not depend on any farmer's being one hundred percent correct in his land use. The tendency and general rules make the pattern for the area. Influences in land use, such as variation in labor supplies and in proportions of the different kinds of land from farm to farm, are modifications or adjustments from the pattern. A listing of the soils of an area to fit the land-use pattern gives an order and a systematic arrangement, according to use suitabilities, making possible the identification of farms by a land-use suitability rating or index. This index lists soils in relation to each other on a scale of zero to one hundred in terms of various uses.

The nature of the land-use-pattern listing of soils can probably be set out best in connection with slides, which will be presented later by Director L. I. Jones, showing the land-use pattern of the area. Briefly, it is a listing of the different soil types, in the order of their use suitabilities and as they are associated with drainage, topography, elevation, erosion, and other natural features. For the sandy upper Coastal Plain soils, the listing ranges from soils that are too wet for anything but hardwood timber production through the various suitabilities for crops and pastures, to the other extreme where soils are so dry, rugged, or eroded that they are suitable only for pine and mixed pine-hardwood forest uses.

This arrangement of soils differs from the agronomist's productivity grouping by indicating productivity for special uses rather than just productivity in general. It differs from the soil-capability listings by emphasizing economic uses rather than the physical problems which tend to follow these uses. The way the relative advantages or suitabilities of the soils change along the scale may be indicated by a cotton-corn ratio representing the number of pounds of cotton equivalent per bushel of corn for each of the different soils. It ranges from zero near the wetter end of the scale to infinity near the drier end. Within the practical range under which farms in the area are actually growing both crops, it ranges

FARM CLASSIFICATION AND ANALYSIS: MISSISSIPPI

from about four on soils that will make 400 pounds of lint or 100 bushels of corn to 20 on soils toward the drier end of the scale that make about 200 pounds of lint or 10 bushels of corn. On soils slightly better drained than the ones suited only to permanent hardwood timber production and are not suited to regular cultivation, pastures give the highest net return. Then following in order toward the other end of the scale, hay crops give the highest net return on soils with drainage between "pasture" and "corn" land. Then comes the range for corn, the broad range over which cotton has a relative advantage, and finally the soils adapted to pine and mixed pine-hardwood soils.

It is possible that on some of the soils there may be a small area for sericea lespedeza between the "cotton" and "pine" soils as well as on some of the poorer "cotton" soils. The place of this most-promising, deep-rooted legume is being given thorough testing and study on some of the special-study research farms.

Acreages, yields, and other figures for farms grouped on the basis of land-use suitabilities and by size of farm are reported for the Tennessee Valley area of Mississippi in a mimeographed Experiment Station report, "The Northeastern Highland Area of Alcorn, Prentiss, and Tishomingo Counties, Mississippi - Area, Land-Use and Farms by Kind of Land and Size of Farm, 1947." The report describes the kind of farming being done on the different kinds of farms and shows a striking association of a number of items with either kind of land or size of farm or both.

Work Yet to be Done

Farm plans involving detailed soils maps, land-use maps, and fertilizer schedules are being established on eight special-study research farms in developing farming programs suited to the different kinds of farms. Results are to be obtained not only for entire farms but by specific soil types so that the results may be projected directly to similar soils and farms in the area. Similar records will also be obtained for test demonstration and other farms for which treatments and responses are available by specific soil conditions. Materials provided through the project are making it possible to try numbers of things on these farms that an individual farmer could not do without the assistance that is being given.

In a cross-section land-use and production survey now under way, detailed recordings are being made of land use and approximate production to establish "bench marks" along the land-use-pattern scale. These recordings are for both a cross-section sample of soils of the area and for the special-study research farms where treatments and responses are also being recorded. Enough experimental work was done with the "bench mark" idea last fall to determine that it is possible, with detailed data for a few points along the scale to show both tendencies in land use and approximate yields at these points. With the methods and experience from this area, expansion of the work into the Brown Loam, Selma Chalk (or Blackbelt) and other areas will no doubt be much easier and move along much faster than in the present experimental and developmental stages.

Application of Results to Economic and Agronomic Research

A few illustrations will indicate some of the implications of results in the project for research in the different fields. Development of a sampling method that

FRANK J. WELCH

can conservatively be said to reduce costs of a representative sample of farms by as much as one-third in the Northeastern Highland area has already been mentioned. For the statistician, the difference in distribution of poor-land farms and the better-land farms, by acres of open land, has very definite implications for measures based on the assumption of a normal distribution. In soils and agronomy, work has been primarily on physical characteristics of soils and how to grow various crops. Yields in response to treatment has frequently been given without mention of the soil type. Recording yields and tendencies in land use according to soil condition (types, slope, and degree of erosion) helps to make soil survey data more useful and may even indicate where additional refinements are needed. Relating use-suitabilities to readily recognizable physical characteristics is a practical application of land economics and offers possibilities for useful research in all general soils and type-of-farming areas.

The wide range of treatments being used on the various soils on special-study research farms may reasonably be expected to contribute toward determining suitable variations in amounts of fertilizer with productivity capacity of soils, a most difficult problem facing soils-testing laboratories.

In Farm Management, there are two generally recognized methods in common use: The Business Analysis Method and the Budget Method. The "Cornell" Business Analysis Method of handling data for area samples of farms is based on the assumption of a uniform area. We do not have uniform areas in Mississippi. Some farms in an area are suited to relatively much higher proportions of one crop or other land use, while other farms in the same area are suited to opposite proportions in the various land uses. Suitable land uses are a prerequisite to efficient use of labor, equipment, and other resources. Fallacies in use of the method where land-use-suitability differences are disregarded are shown in a distribution of farms by kind of land and size of farm. The high proportion of poor-land farms that are small, and of good-land farms that are large, shows that the poor-land farms have dominated group averages for the small farms, while the farms with better soils have dominated group averages for the larger farms.

Groups of farms based on the position of their soils in the land-use pattern of an area approximate in degree of uniformity groups in a uniform area.

Use of the Budget Method of handling data for individual farms, in order to fit a "typical" farm and be "representative," commonly involves use of an area and farm-average yields. The fallacy in that is illustrated by one of our special-study research farms where the best information available indicates potential corn yields by fields in cultivation ranging from about 100 bushels on the best two and one-half acres to 10 bushels on the worst ones, with cotton-corn ratios (indicating relative suitabilities for cotton and corn) ranging from about $\frac{1}{4}$ to 20. The farm doesn't have any of what farmers of the area call "hay land" and the farmer is having a difficult time providing enough pasture for his mules and cows. The average yield for any crop on this farm would depend on the acreage. It doesn't mean a thing for this farm that "the larger farms having relatively large acreages of hay and pasture are making the highest incomes."

Area information on yields, production, and treatment responses by soil types make it possible to add up a budget for any farm for which an inventory of resources is available.

ADDRESS

Summary and Conclusion

Summarizing, we have a procedure for determining the different kinds of farms in an area having reasonably uniform use-suitabilities and production possibilities and for indicating the relative importance in terms of proportion of all farms for these different groups. We also have a procedure for recording results on farms and fields by land-use-suitability ratings that indicate the kind of farm and specific soils for which the data are applicable. These are basic fundamental contributions to research methodology that hold far-reaching possibilities for further economic, agronomic, and other agricultural research under both practical farm and controlled experimental conditions. We are well pleased with developments and progress in the project and are at this time making definite plans for beginning extension of the work to other areas in Mississippi next year.

ADDRESS^{6/}
of
HARRY L. BROWN

Dean, College of Agriculture, University of Georgia
Athens

Chairman Cooper (introducing Dean Brown): Gentlemen, you know it has become almost historic upon these particular occasions that we shall have someone to address us, and we prefer one who we admire and who can bring us a message. We are fortunate to have such a speaker today. I had in mind, coming down last night on the train, an exceedingly long statement with reference to his work and what he had done for agriculture in the Nation and in the South. But sitting here beside him, I thought, "There he is, an old friend of mine, and if I put something of that kind on him, he will commence to think that maybe I'd had a lapse of memory or something of that kind, especially so when he is here before a group with whom he has worked for many, many years. So I am not going to refer to his attainments. All of you know of the very outstanding work that he has performed, and that in his work in Washington, he has been a constant friend to this group and agency in all of the development that they wanted to have take place. I know that all of us appreciate what you have done, and we look forward to your leadership in the future. I was very glad, personally, when Harry decided that he was going to come back to Georgia. I thought it meant a great deal to everyone of us, and I know that it does. In welcoming you back, Harry, we wish you to know that we are glad you are with us and that we look forward to your continued effort and ability in the carrying on of our joint activities. So I introduce you as our good friend and leader, Dean Harry Brown.

Dean Brown: Dean Cooper, our lady secretary (Mrs. Pearson), and associates in agricultural developments. Whether Dean Cooper meant all he said or not, and whether you agree with him or not, makes no difference so far as this statement which I am making just now is concerned. Whether you are glad that I am back in close association with you again or not, I am. And I am just as sincere as I know

^{6/} See text, p. 40.

HARRY L. BROWN

how to be. It is not that I haven't enjoyed the effort to carry out duties that have fallen to my hands in different capacities, but rather that it was a delightful experience to be home again. I am honored that our chairman asked me to talk to you awhile at lunch today at the semiannual meeting of the Valley-States Conference. I suspect that one of the very worst, and important, understandings that the chairman and I ought to have is to decide how long my speech is going to be.

Dean Cooper: Just as long as it is.

Dean Brown (continuing): There isn't any manuscript, but I do have some notes, so you won't be burdened with my trying to read a manuscript. Rather, I wish to offer some comments which, to me, are of considerable significance--not because I make them, but, rather, because of the facts, as they seem to me and as they relate to development of agriculture--in the country, yes--but particularly in this area.

I should like for you to think with me for a little while here on four points. Whether they are in the logical order, I don't know, but they are these: (1) the TVA approach; (2) land and water use; (3) plant food use; (4) a look ahead. A good deal of my thunder, as you will see from that outline, was stolen this morning. Even so, I am going to attempt to make a continuous statement that will include these points necessary to carry out the idea I have.

Back of the TVA approach, and although I designate it as the TVA approach, I hasten to say that it wasn't a TVA approach alone. TVA didn't make the approach alone, although the philosophy permeates all the activities of the TVA. I am speaking, specifically, Mac (Mr. McAmis) of those relating to agriculture. But it wasn't a TVA approach, by TVA alone. In that fact lies, I think, a lot of significance. The philosophy and the policy, both, as determined by those in charge of the agricultural work, beginning with our good old friend and great southerner, and great American, Dr. H. A. Morgan, emphasized that the efforts TVA made, or should make, in this field, be not in any sense contrary to the efforts that other agencies might already be making, but rather to approach the matter by making those efforts felt through existing agencies, supplementing, if you please, what the other agencies in the field were already doing. Although I don't confine it to that, I speak specifically of State agencies on this point here. I shall say a little more about that at the conclusion of my remarks, when I shall attempt to evaluate this approach. I am enunciating the approach now, as I saw it at the time, and then I shall attempt at the end to evaluate that approach in the light of 15 years' experience. Another distinctive thing about this program, at least distinctive to me, is that it is built around or includes a regional concept. I shall have a little more to say about that a little further on. So much for the introduction and the TVA approach, which I reemphasize was a joint and coordinated approach to the problems of land and water use in the watershed, specifically, but reaching to other areas through the instrumentalities, about which you know, and which I do not now have time to discuss.

That brings me to the second point: land and water use. The underlying practice for sound use of land is just as far as we can go and be practical to keep that land covered; cover for the land; cover at all times of the year. I understand that the flow of the Tennessee River is highest at the end of the winter, say March, and that it gradually goes down all the rest of the year,

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until the winter rains begin to come again. That, in spite of the fact that the rainfall, I believe, Mac (Mr. McAmis), is heavier in the summertime than it is in those winter months.

Mr. McAmis: Highest in July.

Dean Brown (continuing): Even so, that flow of the river continues, as a whole watershed, to go down during that period. Isn't there some important significance in that fact? If our land as a whole in the watershed is more effectively covered in the summertime, may that not contribute to that result? If so, doesn't it emphasize--and that seems to be the case--or help us to emphasize, the importance of cover on the land in the wintertime, in order that we may hold more of that water there that has normally given us flood conditions? So it is important that the land have cover, just as nearly all the time that it possibly can. This, of course, should be in keeping with a type of agriculture that is necessary for those engaged in agriculture to have a livelihood, to supply the necessities of life, and with agricultural production programs that provide for others--those off the land--the things they need. The sound use of this land and water, the conservation of it, means that there is on our shoulders, farmers and others who have responsibility in the field of agriculture, a responsibility to take care of it for today and for tomorrow. I think I have expressed it to you before--it isn't my philosophy, although I subscribe to it, joined with those who may have enunciated it first, and I don't know who they were nor how long ago--that the land to which we claim we have title and to which we do, so far as legal matters are concerned, is ours in trusteeship and not ours to do with as we please, even though we are in a country that believes in and fights for personal liberty and personal privilege. I don't think ownership includes the right to so use that which we say is ours that it makes for less opportunity for those who follow--me, for instance--on that land, whether it be my sons and grandsons, or somebody else's sons. I say that is going too far when we assert that land is ours to do with as we please in this land of freedom, when our conception of what we may do means that we use it in such a way that those who follow us, whoever they be, don't have as good opportunity on it as we have. That is irresponsibility.

This use of land and water is completely tied up in that philosophy. That emphasizes, it seems to me, very strongly the thing to which we all subscribe, that we must do more, and we are doing more constantly, to get cover on this land, particularly in the wintertime. The deciduous trees, of course, remain effective as a control for water even when the leaves are off, but they are more effective, probably, when the leaves are on and much of that water goes off through transpiration. But back to this thing that I was just about to say: The important thing is giving the land cover, which cover consists of grass and other close-growing crops, particularly in the wintertime. I am not, in any sense, trying to detract from the importance of growing these crops in the summertime, too, but, rather, to emphasize the importance of getting cover there when more of the water does get away, proportionately more of it, when we don't have cover, than at other times of the year. Under our program plans, we should emphasize that more and more.

Now, we must not lose sight of the fact--and I am sure most of us think realistically, but let us remind ourselves of it--that while we are doing these things

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on the land and conserving the water and the soil, there is that responsibility--I mentioned it just now--which we have as farmers, to help that land and that water resource to produce the necessities for the on-going of our commerce and for the welfare of our people, the whole people. For it is an essential part of our responsibility to recognize that everybody wears clothes; everybody uses other products in some form or another which come from this soil; so we must use that cover on the land in such a way that we can live while we are using it. Grass, either as pasture or hay, or both, is a source of food through livestock, which helps us accomplish that purpose. I think it is very fortunate that many, if not most, of our better soil-holding crops are also good feed crops. I will have a little more to say about this thing you discussed rather fully there this morning. I have rather deep convictions about it, but I didn't enter into the discussion because I had already planned to say something about it here.

Then the trees. I am in no sense, as you can see and can understand, covering the whole field. I couldn't do it if I had the competence, in a short length of time. But I am impressed by the fact that this grass cover serves that dual purpose of helping us hold the land and the water and also providing feed for livestock. Livestock, in turn, provide us with many of life's necessities and offer one of our greatest opportunities to develop a type of farming that will conserve our soil for today and for tomorrow and meet that responsibility which we owe to those who will follow us. And the forests are in the same category as grass. I hope I shall live to see the time when there is a general conception on the part of agricultural people and the general public that trees, particularly in the Southeast, are just as much of a crop and just as important a crop as any other crop we have, at least on a relative basis. As a matter of fact, the cash farm income in Georgia last year was 521 million dollars for agricultural products other than those of the forests, and when those of the forests are added, it was about 300 million dollars more, making more than three-quarters of a billion dollars. That emphasizes the importance of forestry for the timberlands in Georgia. I think, Mr. Baker, we so far really are only scratching the surface as to the possibilities in incomes. That is going to be significant, not because it amounts to so many dollars, but because it is helping us conserve these resources and, at the same time, over a long period of years, can be made just as productive from a net income point of view as many, if not most, of our other enterprises.

Plant food use. TVA has done some pioneering, and I know we all appreciate that, in the plant food field, emphasis being given to the importance--to them, too much overlooked importance--of increased use of some of our plant food elements, particularly minerals. With that objective in mind, the TVA gave its attention to developing new plant foods by new processes, all of which have been a definite and significant contribution.

May I digress here long enough to say that in my 6 months' work in Brazil recently, on a commission about which you know, I think I found--maybe because of my knowledge of TVA, and I don't mean that Brazil didn't already know something about TVA--I found that we were able to make some very helpful suggestions to Brazil. Brazil is a country which has never used any commercial plant food of any consequence. At the City of Sao Paulo, which is inland about 40 miles, the capital of that State, 20 percent superphosphate, if they use any, costs them--and that is the principal agricultural State of Brazil--\$75 to \$80

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a ton. So you know about how far they could go in using adequate amounts of phosphate, and they need it greatly, at that cost level. I did see and do see in a lot of undeveloped water power in Brazil, the possibility of treating, by the electric furnace method, the type of phosphate rock that they have. That type of rock might lend itself better to the electric furnace method of production than to the old, conventional methods. They don't have the sulphuric acid. They don't have the sulphur. They would have to import that, but they do have the potential there for cheap electricity.

This work in the plant food field in which TVA has pioneered is significant in America and out of America. Finding forms or producing forms of phosphates, particularly, or other fertilizer materials, in a more concentrated form and, therefore, making plant food available to farmers at less cost per unit in the long run--that is something that TVA has done which I think is outstanding and which I know all of us appreciate. And we mustn't forget the fact--and I don't like to talk about this thing, but I think we must be realistic; we are realistic--I feel that we mustn't lose sight of the fact that there might be more warfare in which, necessarily, we would become engaged. Some of these plant food sources also are sources of war munitions; so these facilities not only provide us with materials in an area where the plant foods are needed, but also those same facilities, those same resources, and that same area have had, and will have again, if the emergency should come, a very important responsibility in meeting the needs of war. I think we should remember that.

Now, fourth, as we look ahead, do we see crop controls; do we see quotas for crops? Certainly, some have been in the picture, are in the picture now, and probably will be in the picture. Will we have livestock quotas? That gets us down to the things we were discussing this morning. I am wondering if this setup here that has had 15 years' experience, doesn't offer a peculiarly good opportunity for us to make further determinations along the line indicated by your discussions this morning. Can't we, by appropriate adaptations--maybe not too many adaptations--but with more emphasis on some different phases of these cooperative efforts that have been going on over these years, find some of the answers to these questions that are bothering Dean Funchess and Dean Cooper and Dean Schaub, and the rest of us? It seems to me that we could, in this area, with the setup we have and the experience we have had, develop some further facts that would represent some very significant contributions. I am not trying to spell those out. I am just offering that as a possibility. It seems to me there is a possibility that we might be able to find the answers as to what adjustments are fair in our area and also fair to the other areas of the country which have responsibility the same as we do.

I must conclude.

All through the remarks I have made, there has run through this thought: I know that this approach, this cooperative approach which TVA has made from the outset and has followed religiously, has proven itself by 15 years of successful operation. That is to say--and I mean to say--that I think it was a sound conception and, as we evaluate it today, and as history will evaluate it, that it has been, and remains, a noteworthy contribution in the development of an area, a contribution to the Nation, and a contribution to the world.

Just this further word.

NEIL W. JOHNSON

Fortunately for me, the Little Tennessee River, one of the main tributaries of which flows through my farm, and in spite of my farm line, joins with the Little Tennessee River; fortunately, I say for me, the Little Tennessee River doesn't stop at the North Carolina line. If it did, I would be drowned, or my wife would be before I could get there this week-end. I make that statement not to be funny at all, but to emphasize the fact that the rivers, the water flow, and the damage from erosion don't recognize State lines or any other political subdivision lines. I say that to emphasize that these things with which we are dealing have a significance that extends beyond the borders of a State. These difficulties don't stop at the State line. What happens in North Carolina, Dean (Dean Schaub), is important to Georgia, and it is important to the rest of the country. So I want to urge, what I think is important, that we have our State programs, yes, but that we strive constantly to build those State programs into a bigger, broader, and more far-reaching program.

✓ VALLEY FARM CLASSIFICATION AND ANALYSIS STUDY
HAYWOOD COUNTY, NORTH CAROLINA !

PROGRESS REPORT $\frac{7}{1}$
7

Introduction X
by

Neil W. Johnson

After a year of cooperative work in Haywood County, North Carolina, we are ready to make a preliminary report on the research results obtained. Although most of you are quite familiar with the study, this being the third successive meeting of the Valley-States Conference at which it has been discussed, it is desirable to review briefly why the study is being made and what we hope to get out of it. Without going too far into origins, we can say that a Special Advisory Committee has been operating over a period of several years to develop concrete plans for improving interagency relations involved in bringing about a well-coordinated conservation program in the Tennessee Valley.

This committee, at its meeting in January 1948, decided to consider the possibility of jointly studying farms to determine soil conservation needs in the Valley as related to the regional program of agricultural development and watershed protection. They suggested that a Technical Committee be set up to develop technical methods and procedures for this purpose and agreed to explore the advisability of utilizing such methods and procedures as a workable basis for carrying on their operations jointly in accordance with the plans jointly developed. The report of this Technical Committee, with its suggestions for cooperative experimental work in Haywood County, North Carolina, is contained in the Proceedings of the 30th Valley-States Conference held at Asheville a year ago. It suggested: (1) Cooperation in a brief research study to learn

7/ See text, p. 41.

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more about the nature and relative importance of problems farmers face in adjusting toward resource-conserving systems of farming; and (2) cooperative action in assisting farmers to make the types of adjustments that seem to be indicated. The report of the Technical Committee was accepted, and all agencies concerned have supported the study in a way that left nothing to be desired.

During the summer I made a brief report to the Correlating Committee, which was meeting in Washington, regarding progress on this work. We hoped at that time that it would be possible to present preliminary research results at this meeting. Assuming that this could be done, the Correlating Committee suggested the desirability of a conference prior to our meeting today, which would be attended by the agency representatives who formed the field party working in Haywood County and by the Project Leaders who have counseled with them as the study progressed. The purpose of this meeting was (1) to react to the preliminary research results obtained and (2) to make tentative suggestions for consideration by the Valley-States Conference regarding what should be done with the research now that it is available. This meeting was held in Washington on September 26 - 27; and I am prepared to give you the reactions of this working group after we have heard from Mr. Samuel W. Atkins, Field Party Leader, who will now summarize the preliminary results of the study.

Preliminary Results of the Valley Farm Classification and Analysis Study by Samuel W. Atkins

Introduction

At the April meeting of the Valley-States Conference, we reported on the progress that had been made on this experimental study. At that time, the working group had completed the preliminary work on the classification of farms and had started on the analysis phase of the study. We described the procedure that was used in classifying the farms. (See Proceedings of the Valley-States Conference, April 6, 1949.)

At that time, the working group had selected for analysis a representative case farm from each of a dozen of the most important farm groups as indicated by the farm classification. This was the first step in the farm analysis phase of the study. It is this phase which I will emphasize in my report to you today. I want to tell you something of the way the working group went about doing the job of studying representative case farms, and to give you some of the results obtained from the study.

Method of Procedure in Farm Planning

First, I would like to refer briefly to the farm classification from which we selected the representative case farms for detailed analysis. The grouping of farms for this purpose was based on three farm characteristics: (1) The major soil association--the broad physical category, (2) proportion

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of open land in "good" soil^{8/}, and (3) the size of the farm expressed in terms of the acreage of cleared land. The type-of-farming, although not used as a basis for selecting individual case farms, was given important consideration in the detailed farm classification and in the alternatives studied for each case farm.

Each of the three soil associations (Hayesville-Halewood, Porters, and Ramsey) was subgrouped according to the percentage of open (cleared) land in "good" soil as follows: (0-10 percent) low resource group, (11-35 percent) medium resource group, and (36 percent and above) high resource group. The farms were further subgrouped into three sizes: small (under 30 acres of open land), medium (30-79 acres), and large (80-200 acres). Farms larger than 200 acres of open land, few in number, were not included in the farm analysis.

These groups selected for detailed study are as follows:

1. From the Hayesville-Halewood Association (9 farms)
 - a. Small commercial farm with low soil resources
 - b. Small family living farm with (1) low and (2) medium soil resources
 - c. Medium-size commercial farms with (1) low, (2) medium, and (3) high soil resources
 - d. Large commercial farms with (1) low, (2) medium, and (3) high soil resources
2. From the Porters Soil Association (2 farms)
 - a. Small family living farm with low soil resources
 - b. Small tobacco with low soil resources
3. From the Ramsey Soil Association (1 farm)
 - a. Small tobacco farm with low soil resources

Following the selection of the case farms, a detailed soils map of each farm, showing the kind of soil, the slope, and degree of erosion, was made.

The working group, "armed" with copies of this map, visited each farm, obtaining the following information:

^{8/} These soils are derived chiefly from alluvium and colluvium, occupy the smoother slopes (less than 15 percent), are relatively fertile, and are adapted to a wide variety of crops, and can be cropped intensively in short rotations.

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1. The field layout, with fence and building locations
2. Crop sequence, practices, and rates of production for each field
3. Pasture practices and current grazing load, as indicated by the number of animal units grazed
4. Detailed survey of the farm forests with respect to such items as: (1) Type of forest cover, (2) rates of growth and condition of stand, (3) present forestry practices, and (4) annual timber requirements for farm and home use

The committee, working together, prepared for each farm a plan for one or more alternative farming systems that appeared to have the greatest income possibilities under resource conserving systems of farming, giving due consideration to the place of forestry, field crops, pasture, and livestock in the suggested alternatives.

The present and suggested systems were tested by balancing (1) labor needs against the labor supply, (2) feed production against feed requirements for livestock, and (3) income against expenses. The income possibilities of each system were estimated on the basis of two price levels--that prevailing in the area during 1945 and the much lower level experienced in 1940. Both of these levels are lower than that currently prevailing, a factor that should not be overlooked in judging the feasibility of suggested changes.

It was assumed for planning purposes that the size of the representative case farms would not change. The plans suggested for the different sizes of farms should indicate the effects on a given farm if it shifted from one size group to another.

The alternative farming systems were formulated within the limits imposed by the size of the farm and the land resources of the representative case farms. No consideration was given to the interest, managerial abilities and economic resources of the farmers now operating these farms.

This study is unique in having such a complete survey of the present situation and an analysis of the forest potentialities under improved management practices for each case farm.

Since it will not be practical to present to you the results of our analysis of each representative farm, I shall give you the results of our study of one of these farms and point out some of the highlights of the other group. A report on all farms soon will be available for distribution to the cooperating agencies. (A preliminary report is now in the process of revision for this purpose.)

Some Results of the Study

The case farm that I have selected to illustrate the procedure used in individual farm analysis and indicate some of the major adjustment

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problems is a medium-size commercial farm in the Hayesville-Halewood Soil Association. It is in the low soil resource group, having only about 7 percent of the open land in "good" soil. It represents 9 percent of the commercial farms in the county and 10 percent of the open land.

Representative Farm No. 208. This farm was operated as a dairy farm, selling processed milk in 1948. It contains 71 acres, of which 54 are in crops and open permanent pasture, and 15 in woods. It is about average in the kind and acreage of crops grown, but it is above average in production practices, in farm production, and in farm income. It is representative of the dairy farms in the group. A study of this farm and the adjustments in organization and management the operator has made to maximize income should reflect the problems and opportunities for other farms in the groups.

Present organization. The present crop and livestock organization is shown in table 1, and the soil resources and present land use in figures 1 and 2, respectively. The "good" soil occurs in narrow bands along the natural draws and largely on C slopes--the steeper slopes for the "good" soils. The operator uses these soils in 1-year rotations for corn or tobacco, with annual cover crops. A few patches of hillside land (D slopes) are also cultivated in short rotations (fields 5a, 8, and 9, figure 1). In spite of the use of winter cover crops and moderately heavy applications of manure and contour cultivation, these row-cropped fields have lost considerable soil.

To provide as much feed as possible for his 12 milk cows and other livestock, the operator is following reasonably good fertilization practices on corn, on cane for forage, and on tobacco. In addition to manure and winter cover crops, he applies 350 pounds and 600 pounds of 4-10-6 fertilizer to corn and cane, respectively, and 600-800 pounds of 3-9-6 fertilizer to tobacco. He has made considerable progress in renovating permanent bluegrass-white clover pastures, largely by applications of phosphate; and he is now experimenting with a ladino clover-orchard grass mixture. The present pasture carries one animal unit per 2.3 acres. (See table 2 for production practices and rates of production.)

The 15 acres of woodland has good stocking, and the production possibilities under recommended management practices are good. No fire damage was observed, and grazing damage was light to moderate.

The net cash farm income for the present organization is estimated to be approximately \$1000 under 1945 cost-price relationships. This would pay interest at 5 percent on the \$14,000 investment and leave a little over \$300 for the operator and family labor (3150 hours). In addition, the family uses products grown on the farm plus the use of the dwelling valued annually at \$856 (table 3). The farm woodlot does not provide any cash income, but produces annually \$61 worth of products for farm and home use.

9/ The figures referred to in the text are not reproduced in the Proceedings.

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Weaknesses of the present system. Aside from the limitations imposed by the small acreage of "good" soil, there are some weaknesses in the organization and management of the farm.

1. The so-called "good" soil (mostly C slope) and patches of steeper upland (D slope) are being row-cropped too frequently, resulting in excessive soil erosion.
2. Complete dependence on grass-hay, cane, and corn stover requires feeding high protein concentrates to balance the dairy ration. (The operator buys cottonseed meal and 24 percent dairy feed to supplement corn and cob meal.)
3. Production of hay per acre is too low, largely the result of keeping the area in meadow continuously for 7 years with relatively little fertilization.
4. Woodland is being damaged by grazing, since there is no fence between the woodland and the pasture.
5. While the operator is further advanced in pasture improvement than the average farmer in the group, he is neglecting the badly eroded areas.

Three alternative organizations are suggested for this farm. They are (1) Grade A dairy, with tobacco; (2) dairy (ungraded) producing milk for processing, with tobacco; and (3) beef cattle (cow-calf herd), with tobacco.

Alternative organization I--Grade A dairy. The land use adjustments proposed for this organization are: (1) Enlarge field No. 5 by reducing pasture and shift the crops from low-producing, permanent grass meadow and some tobacco to a 3-year contour-strip rotation between (0.5 acre) buffer strips of alfalfa (1 year corn and 2 years meadow); (2) fence 10 acres of C and D slope pasture (field 8) and crop in a 4-year rotation (1 year corn and 3 years red clover and orchard grass meadow and pasture; (3) use the "good" cropland for silage corn and tobacco, growing them in a 2-year rotation (1-year row crop) on C slope and a 1-year rotation with winter cover on B slope; and (4) establish kudzu for supplementary pasture on the rocky D slope (field 10) and the badly eroded E slope (field 9). The remainder of the pasture (24 acres) would be seeded to ladino clover and orchard grass, using recommended practices for establishing and maintaining the stand (table 2).

These suggested adjustments would meet the requirements for proper land use and for adequate quality hay. Except for tobacco, improvements can be made in cropping practices. Corn should receive slightly heavier fertilization and hybrid seed should be used. Hay crops should be fertilized and limed according to recommendations (table 2). Because of the suggested shift of corn for grain from "good" soil to upland soil, the average yield per acre would be about 50 bushels under the suggested system compared to 60 bushels obtained at present.

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This crop and pasture organization would provide adequate roughage for 15 cows producing 6000 pounds of milk per year, 6 heifers, and 2 head of workstock. One head of the present workstock would be sold. It would provide no concentrates for the cows since the total grain production would be needed to feed the workstock, heifers, and the few hogs and poultry kept largely for family use.

Fifteen acres of existing woodland should be retained as permanent woods. To obtain the greatest long-time production, the following woodlot practices should be inaugurated: (1) Cut out the undergrowth of rhododendron and plant 600 white pine; (2) continue to protect from fire; (3) prevent grazing; and (4) conduct selective harvesting operations.

The Grade A dairy system would provide a net cash farm income of approximately \$2400, more than double that of the present system with 1945 prices (table 3). After paying interest on the investment, the operator would have \$1539 return to labor (3800 hours for the operator and his family). Assuming no change from the present in the value of family living from the farm (\$856), the total labor earnings would amount to almost \$2400, or 63 cents per hour of labor. The farm woodlot during the first 10 years would furnish no products for sale, but home and farm use products valued at \$61 annually would be obtained. Eventually, annual cash income of \$112, and home and farm use products valued at \$108 annually, would be obtained (table 6).

Most of the estimated increase in income would be the result of shifting from producing milk for processing to Grade A milk production and from ungraded milk production, efficiencies in production resulting from further adoption of improved practices. Income from tobacco would not be increased since the present income level is near the maximum.

This system would require the full time of the operator and family labor equivalent to half of one man. In addition, 1-2 months of seasonal labor would be hired chiefly for harvesting hay, tobacco, and silage. Field work would be done by horses. The cows would be machine-milked. Farmers shifting to this system would need guidance in constructing the necessary buildings, in establishing the crop and pasture systems, and in laying out the contour strips.

Alternative organization II. The land use for the ungraded dairy alternative is similar to that of the Grade A dairy organization with one exception. The 10 acres in rotation crops (field 8) in the latter would be returned to permanent pasture with the exception of one acre to be used in rotation with the "good" soil. One acre of cane would be grown to supplement the hay and shredded corn stover for feeding milk cows. This land-use pattern would provide adequate roughage and pasture for 15 cows under this less intensive dairy system.

Crop practices would be similar in both dairy alternatives, but less intensive practices would be followed for pastures under this system than under the Grade A system. Instead of ladino clover and orchard grass with intensive fertilization, renovation of present bluegrass-

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white clover mixtures with lime and phosphate would provide adequate pasture if supplemented with 5 acres of kudzu, and maintained with periodic applications of lime and phosphate (table 2). This system would provide almost 2 acres of good pasture per animal unit.

Corn yields per acre would be about 65 bushels. While only 5 bushels higher than the present yield, the expected rate of production could be maintained, if not improved, since the total acreage would be grown in 2-year and 3-year rotations. In contrast, the loss of soil under the present 1-year rotation would eventually lead to reduced yields.

More and better quality forage and pasture would be produced under this system than under the present system. Consequently, approximately one-fourth less concentrates would be needed per 100 pounds of milk produced than is now fed.

Dry roughage and pasture would be available for 15 cows and the young stock, but about three-fourths of the concentrates for the cows would be purchased.

Net farm income with 1945 prices would be approximately \$300 larger than is obtained from the present ungraded dairy system, but it would be much less than that estimated for the proposed Grade A organization (table 3).

Alternative organization III--general--beef. This alternative would have practically the same land use and cropping pattern as the preceding plan for the ungraded dairy organization. The livestock organization would be the same except for the substitution of 15 beef cows for 15 milk cows (table 1). Calves weighing 400-450 pounds would be sold in the late fall. The cows would be "roughed" through the winter on a good grade of hay and some corn stover plus a small quantity of concentrates. (See table 2 for livestock practices.)

Net cash farm income, with 1945 prices, would amount to \$900, or approximately \$125 less than obtained at present from the ungraded dairy organization. This net income compares with \$1300 for the proposed ungraded dairy and \$2400 for the proposed Grade A dairy organization. Cash income would pay all cash costs, depreciation, and interest on the investment and leave \$150 for the operator's labor. But in addition, the family would receive \$850 worth of food, fuel, and housing from the farm. Under 1940 price levels, net cash farm income would drop to about \$340. This would not pay interest at 5 percent on the investment at that price level, leaving nothing for the operator's labor except the farm products used by the family.

This system requires about the same investment as the ungraded dairy. The return on the investment, however, is less, but the return per hour of labor is greater for the general-beef system. But the labor requirement is relatively low--2100 hours compared to 3900 hours for the proposed ungraded dairy organization. As for the ungraded dairy, the operators would probably need some technical assistance.

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This system is best adapted to situations of small labor supply, advanced age of the operator, and low mortgage indebtedness.

Most of the farmers in this medium-size farm group will probably adjust to either the ungraded dairy or the beef type of organization, in part because of the probable restrictions on the amount of Grade A milk needed, but in part to the smaller capital requirement, less risk; and, for the beef type, the relatively small labor requirements.

The analysis of this farm shows the procedure used in the study of each of the other case farms and indicates in a broad way the long-time income possibilities of some of the alternative farm organizations. To give you a general idea of the major income differences between the farm groups, I would like to comment briefly on a few of these groups. These are shown in table 7.

One fact stands out clearly, namely, that there are some significant differences between the groups aside from those due to differences in the farm organization, as indicated in the farm just described. First, the income possibilities, on the average, increase as the size of the farm increases, if other factors are equal. For example, within the Hayesville-Halewood Soil Association, the net cash farm income for a dairy-tobacco alternative system would range from about \$400 for a small farm with low soil resources to \$2440 for a medium size farm in the low resource group. Second, income possibilities increase as the soil resources increase (proportion of open land in "good" soil) within a given soil association, and size and type group. This is shown in the income data for the medium-size group in the Hayesville-Halewood Soil Association. Average net cash farm incomes for Grade A dairies in the high soil resource group, for example, would be about 50 percent above the farms in the low resource group. Third, there is less flexibility in alternatives for small farms, and without intensive crops and/or livestock enterprises, incomes would be very low. For example, a small farm in the Hayesville-Halewood Soil Association and in the low resource group does not produce adequate cash income to pay all cash expenses and provide for normal depreciation unless there is an intensive crop or livestock on the farm. But a slightly larger (small-medium) farm, even on the Porters (mountain) soil, would return almost \$1700 in net cash farm income with 500 hens (producing hatching eggs), a small acreage of truck and apples, and a few beef cows. Fourth, large farms in the Hayesville-Halewood Soil Association have a higher proportion of open land in pasture than other size groups, on the average; and a larger proportion of the pasture is on the very steep slopes (45 percent and above). Operators on large farms which have a small percentage of "good" cropland have considerable difficulty, in relation to other groups, in balancing feed production from field crops with feed requirements for a dairy organization. Beef cattle and a few hogs, or a combination of beef and dairy cattle are organizations that appear to be best adapted to such farms. Some operators on these farms were adding a few dairy cows to their beef organization.

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Some Generalizations Regarding Farm Woodland

The most significant current contribution made by the woodlands is supplying home needs for timber, posts, and fuel wood. On the eleven case farms which had woodlands, the value (1945 price level) of forest products used annually ranged from \$11 to \$277. Cash income from forest products is relatively minor for the group as a whole now, but on seven classes it can eventually become fairly significant. Only six of the case farms are now in a position to derive any income from the sale of surplus forest products. The annual cash return for these cases ranges from \$8 to \$242, or 1 percent to 7 percent of the net cash income.

Timber yields are low on the majority of case farms because of past overcutting which has left little growing stock. Volumes per acre range from 130 board feet on the poorest woodlot to 5000 board feet on the best. Annual yields per acre range from 12 board feet to 350 board feet. Under simple systematic management, average annual timber yields can be increased about 300 percent.

Excellent opportunities exist for profitable labor investment in woods work on 10 classes. A range of from 2 man-days' to 28 man-days' labor can be expended annually to yield a return of \$10.60 per man-day.

Livestock grazing in the woodland is common practice throughout Haywood County. The value of the forage obtained is questionable, but the damage done to the woodland constitutes a major factor contributing to low timber yields. Woodland grazing and timber production on the same area are incompatible, and practically no woodland improvement and development are possible unless grazing is discontinued. The farm operator should make a definite decision to manage the woodland or to seriously consider alternative use for the land.

The full potential woodland production of approximately 250 board feet of sawlog material, plus one-half cord of wood per acre per year, can be achieved within a period ranging from 15 to 50 years, if selective cutting is practiced and woodlands are protected from livestock and fire.

Some Observations and Problems

Now that I have discussed the approach used in conducting the study and have indicated some of the adjustments in land use and farm practices our committee thinks are needed, I would like to talk with you awhile about some of the problems involved in making the adjustments that we think would be desirable.

It is evident that sound land use practices in this area dictate systems of farming based chiefly on hay and pasture with trees on the very steep slopes. Thus, emphasis must be placed on pasture-consuming livestock, insofar as open land is concerned, and on producing as large acreage of feed grains and supplementary cash crops as is consistent with conservation of land resources.

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Farmers in the area generally recognize this and many have made adjustments in the right direction--some having set examples of land-use adjustments that would be difficult to improve. But others have lagged far behind.

This brings me to my first observation, namely, that small farmers--those with less than 30 acres of open land--seem to have made less progress in proper land-use adjustments and in adopting improved farming practices than any other group. This is an important segment of the agriculture of the area, representing two-thirds of the farmers and one-fourth of the open land. This lack of progress is probably due to (1) small size of farm and low incomes, particularly on farms where no incomes from off-farm jobs are obtained, (2) lack of interest on the part of some farmers, especially part-time farmers, in developing sound long-time farming programs, and (3) the high average age of all small farm groups, except those working at off-farm jobs.

Many of the farm operators, other than those just mentioned, are old and prefer to sacrifice some income rather than work harder. Therefore, in working with these farmers, their age and physical limitations must be taken into consideration. However, from the long-time point of view, resource conservation must be kept in mind.

While farmers generally follow recommended production practices for tobacco and, to a lesser extent, for corn and hay, they have lagged in the adoption of improved pasture and forest-management practices. As to pastures, the need for and the method of improving pastures seemed to be generally but not universally recognized. Two obstacles to pasture improvement seemed important: (1) the difficulty of distributing lime and fertilizer on steep hillsides, and (2) the cash cost of establishing and maintaining improved pastures. Possibly, there could be some skepticism of the economic feasibility of improved pasture development if farmers bear all or a major part of the cash costs.

As to improved forestry management practices, farmers generally did not seem to recognize the need for, nor the probable economic benefits to be derived from, their adoption. If simple management practices were followed, average annual timber yields would be tripled, and more than half of the farms studied would have a fairly significant cash income from the farm woodlot. The analysis of the potential incomes of farm forests under good management made by the forestry representatives on the working committee should serve to stimulate interest in this phase of farming.

In any event, farmers need technical guidance in the use of improved practices, as well as an understanding of the way their use on land otherwise underutilized will result in greater conservation and increased farm incomes. A significant number of farmers are following improved practices and have farming systems that make full use of their resources. These and other demonstration farms should be valuable in pointing out the economic feasibility of such systems.

Then, there is the problem of financing the cash cost of establishing

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the suggested farm adjustments--cost of such items as buildings, equipment, livestock, pasture, and other land improvements. While some farms could finance their capital needs from savings, a significant number would need to finance a considerable part of their capital needs from outside sources. On many farms, net farm incomes have been low and capital accumulation slow. Furthermore, some practices may not pay off immediately. However, the cash outlay necessary to initiate the adjustments might be reduced by: (1) "Growing" into the expanded livestock program. (For example, a small "shade tree" dairy may be a way of building up a larger Grade A dairy herd with a minimum of cash outlay--and at the same time learn the techniques of dairy-herd management.) (2) By expanding the pasture program as the livestock program is developed. (3) By utilizing as much of the farm resources, such as fence posts and lumber, as possible in making needed improvements.

Since there is considerable industrial development in the area, nearly one-half of the farm families receive some income from work off-farm. Because of the limited agricultural resources, there is a definite need for continued development of industry, as well as correlation of industry and agriculture. Part-time farming must continue an essential part of the economy of the county if anything like the present population is to be supported. Furthermore, rural residences for retired industrial workers appear to be desirable. However, this group of farmers seem generally to be lagging more than other groups in the efficient use of their resources. All of this indicates a need for additional study and work with this group.

If considerable adjustments are made in farming systems, the volume of some products will be increased. Therefore, markets for the additional products, as well as the additional quantities of materials required for production, need to be taken into account. This indicates the desirability of giving consideration to the aggregate effects of adjustments in building a sound agricultural program.

Consideration also must be given to the various farm groups in planning, as well as in carrying out a sound agricultural program.

In our experimental study, we have tried to find out (1) what significant farm groups exist in the area and (2) their approximate relative importance. This technique should be useful not only as a basis for aggregating but for determining the farm groups on which demonstrations and other action programs should be focused.

I am not posing this as an all-inclusive list of problems, but I believe it indicates the need, as well as some of the potentialities, of a coordinated agricultural program--one which will challenge the best thinking and effort of all agricultural workers.

Table 1.- Present and alternative farm organizations on Farm No. 208

Medium Size Farm in the Low Soil Resource Group

| Item | : Present | : Alternative organizations | | |
|---------------------------|-------------|-----------------------------|------------|------------|
| | : dairy | : Dairy | : Dairy | : General- |
| | : ungraded | : grade A | : ungraded | : beef |
| | : | : | : | : |
| | : Acres | Acres | Acres | Acres |
| A. Land Use: | : | | | |
| Corn for grain | : 4.0 | 4.0 | 4.3 | 4.3 |
| Corn for silage | : --- | 3.3 | --- | --- |
| Tobacco, burley | : 1.0 | 1.0 | 1.0 | 1.0 |
| Hay: | : | | | |
| Alfalfa | : --- | 2.5 | 2.5 | 2.5 |
| Clover and grass | : --- | 8.5 | 5.0 | 5.0 |
| Other hay | : 4.0(Tim.) | 1.0(Lesp.) | 1.5(Lesp.) | 1.5(Lesp.) |
| Total hay | : 4.0 | 12.0 | 9.0 | 9.0 |
| Other roughage (cane) | : 1.5 | --- | 1.0 | --- |
| Cover crops turned under | : 5.1 | 1.0 | 3.3 | 2.3 |
| Other crops | : 0.4 | --- | --- | --- |
| Garden | : 0.5 | 0.5 | 0.5 | 0.5 |
| Total in crops | : 16.4 | 21.8 | 19.1 | 17.1 |
| Double cropped | : 5.1 | 1.0 | 3.3 | 2.3 |
| Used for crops | : 11.4 | 20.8 | 15.8 | 14.8 |
| Idle cropland | : 1.5 | --- | --- | --- |
| Total cropland | : 12.9 | 20.8 | 15.8 | 14.8 |
| Permanent pasture (open): | : | | | |
| Ladino clover and grass | : --- | 24.0 | --- | 34.0 |
| Bluegrass mixture | : 41.0 | --- | 33.0 | --- |
| Supplementary (kudzu) | : --- | 5.0 | 5.0 | 5.0 |
| Rotation pasture | : --- | 4.0 | --- | --- |
| Total pasture | : 41.0 | 33.0 | 38.0 | 39.0 |
| Woodland | : 15.0 | 15.0 | 15.0 | 15.0 |
| Other land | : 2.1 | 2.2 | 2.2 | 2.2 |
| Total farm | : 71.0 | 71.0 | 71.0 | 71.0 |
| B. Livestock: | : | | | |
| Workstock | : 3 | 2 | 2 | 2 |
| Milk cows | : 12 | 15 | 15 | --- |
| Beef cows | : --- | --- | --- | 15 |
| Other cattle | : 5 | 6 | 6 | 15 |
| Brood sows | : --- | --- | --- | --- |
| Hogs for slaughter | : 2 | 2 | 2 | 2 |
| Hens | : 30 | 30 | 30 | 30 |

Table 2.- Practices and rates of production, Farm No. 208

| Enterprise | Present System | | Alternative Systems | |
|------------------|---|--|--|---|
| | Practice | Production per acre or head | Practice | Production per acre or head |
| Corn, grain | Open pollinated seed 10# 350# 4-10-6 fert., 5-6 tons manure. Cover crops turned 1-year rotation. Chiefly on "good" soil. | 60 bu. | 10# U.S. 282 hybrid seed, 400# 5-10-10; 250# 16-0-0, 5-6 tons manure, 3 and 4-yr. rotations on upland (D slope: chiefly). | 50 bu. <u>1</u> / |
| Corn, silage | None grown | --- | 12# U.S. 282 hybrid seed. Some fert. as above. Largely 2-yr., rotation with oats- and lespedeza on "good" soil: (predominately C slope). | 14 tons |
| Rotation hay | Timothy 7 years continuous 200# 0-18-0 annually. No lime. Largely D slope. | 1 $\frac{1}{4}$ ton | Red clover 6#, orchard grass 12# seed on winter oats for hay. 3-yr. rotation between buffer strips of alfalfa (Field 5) 4-yr. rotation (Field 8). Limed every 5-8 yrs., 1 ton. Fert. applied to oats, 300#, 3-12-6 and 100# 16-0-0. Letoria or Fulwin oats, 2 $\frac{1}{2}$ bu. | 1.75 tons |
| Alfalfa | None grown | --- | Grown in buffer strips. Establish: 800# 2-12-12 2 tons lime, 25# seed, 30# borax and inoculate. Maintain: 500# 0-12-12 with borax. | 3 tons |
| Cane (forage) | Sorghum variety. Drill in rows 18" wide 600# 4-10-6 6-8 tons manure | 8 tons reported by operator 2/ | 5-6# recommended variety in rows. 500# 5-10-10, and 200# 16-0-0 fert., each of 2 cuttings. | 6 tons (Est. based on results in Pied. & Coastal Plains) |
| Tobacco | 1 oz. Ky. 16 seed 800# 3-9-6; 6 T. manure. Burn beds 1/2 on D slopes 7 yrs. continuous; 1/2 on C&B slopes. 1-yr. rota- tion. Legume cover on all acreage | 1,800 lb. | 1 oz. Ky. 16 seed 600# 3-9-6; 8 T. manure. Treat beds chemically all acreage on B&C slopes in alternate yrs. Legume sod turned under. | 1,800 lb. |

- Continued -

Table 2.- Practices and rates of production, Farm No. 208 - Continued

| Enterprise: | Present System | | Alternative Systems | |
|---------------------------------|---|---------------------------------------|---|---|
| | Practice | Production: per acre: or head : | Practice | Production: per acre: or head : |
| Pasture: | | | | |
| Blue grass-white clover mixture | Half received little or no treatment. Half treated with 100# 0-20-0 every 2 or 3 yrs. 1 ton lime applied to this portion from 2 to 5 yrs. ago. Subsidy materials chiefly sets the level and frequency of treatment. | 2.4 acres Per A.U. (1 cow) | Renovate: 300# 0-47-0; 1 ton lime. Reseed a few bare patches. Maintain: 100# 0-20-0 annually; 1 ton lime every 5-8 yrs. (Poorer soils left in this type of pasture). | 2 acres Per A.U. Equivalent: |
| Ladino clover-orchard grass | None | --- | Establish: 500# 2-12-12, 2 tons lime. 2# ladino clover and 10# orchard grass seed (Fescue 31 for beef if desired). Maintain: 1 ton lime every 5-8 yrs., 400# 0-12-12, or possibly 0-9-27. (For beef, suggest 200# annual applications of fert.) | Approx. 1.5 acres Per A.U. (D slope largely) |
| Kudzu | None | --- | Establish: on badly eroded rocky pasture, set 500 crowns in rows 300# 2-12-12 fert. Maintain: 300# 0-20-0 every 3 yrs., if needed. | 1 A.U. per acre for ____ mo. |
| Forest | | 109 bd.ft. | Protect from fire and grazing. Plant white pine in open places. Practice selective cutting | Sawlogs 300 bd.ft. cordwood $\frac{1}{2}$ cord. |
| Livestock: | | | | |
| Milk cows | Grass hay, shredded corn stover and cane $1\frac{1}{4}$ tons hay equivalent. Corn-cob meal, cottonseed meal and 21% dairy feed 2,200 lbs. Pasture as above. On pasture all year (Mild winter in 1948) | 5,000 lbs. | Grade A: 2 T. legume -grass hay. 1800# concentrates (16%). Ladino clover-grass past., and kudzu supplement Process milk: Hay as above 1500# concentrates (16%) Blue grass pasture and kudzu supplements | 6,000 lb. 5,000 lb. |
| Beef cows | None | --- | 1 ton legume-grass hay 100# concentrates. Ladino clover pasture and kudzu (see above) | 1-450# calf. 90% calf crop |

1/ 66 bushels for alternatives II and III with corn for grain grown partly on the "good" soil.

2/ Reports feeding 12 cows one feed per day from 11/1/48 to 4/15/49 from the production on 1.5 acres.

Table 3.- Financial summary, Farm No. 208

| Item | Present organization | Alternative organizations | | |
|---|-------------------------|---------------------------|-------------------|------------------|
| | | Dairy Grade A | Dairy ungraded | General- beef |
| | Dollars | Dollars | Dollars | Dollars |
| Cash income: | A. 1945 price level | | | |
| Tobacco | 720 | 720 | 720 | 720 |
| Milk | 1,540 | 4,016 | 1,932 | - |
| Cattle | 252 | 255 | 255 | 850 |
| Feeder pigs | - | - | - | 100 |
| Poultry products | 54 | 92 | 92 | 92 |
| 1. Total income | 2,566 | 5,083 | 2,999 | 1,762 |
| Cash expenses plus depreciation: | | | | |
| Fertilizer and lime | 60 | 296 | 130 | 181 |
| Seed | 24 | 82 | 29 | 24 |
| Other crop | 55 | 113 | 96 | 96 |
| Total crop | 139 | 491 | 255 | 301 |
| Feed | 667 | 917 | 551 | 120 |
| Other livestock | 241 | 430 | 374 | 64 |
| Total livestock | 908 | 1,347 | 925 | 184 |
| Labor | 120 | 120 | 120 | 20 |
| Depreciation | 216 | 353 | 192 | 164 |
| Repairs | 111 | 197 | 123 | 104 |
| Other expenses | 48 | 136 | 72 | 89 |
| 2. Total expenses | 1,542 | 2,644 | 1,687 | 862 |
| 3. Net cash farm income (1 minus 2) | 1,024 | 2,439 | 1,312 | 900 |
| 4. Value of family living from farm | 856 | 856 | 856 | 856 |
| 5. Net cash income plus family living | 1,880 | 3,295 | 2,168 | 1,756 |
| 6. Interest on investment | 700 | 900 | 749 | 753 |
| 7. Net labor earnings (5 minus 6) | 1,180 | 2,395 | 1,419 | 1,003 |
| Hours worked by operator and his family | 3,250 | 3,800 | 3,900 | 2,100 |
| Labor earnings per hour | 0.36 | 0.63 | 0.36 | 0.50 |
| | B. 1940 price level | | | |
| Cash income | 1,598 | 3,328 | 1,863 | 942 |
| Cash expenses plus depreciation | 1,078 | 1,908 | 1,181 | 603 |
| Net cash farm income | 520 | 1,420 | 682 | 339 |

Table 4.- Capital investments, Farm No. 208

| Item | : | Present organiza- tion | : | Alternative organizations | | |
|----------------------------|---|------------------------------|---|---------------------------|----------|----------|
| | | | | Dairy | Dairy | General- |
| | | | | Grade A | ungraded | beef |
| | | Dollars | | Dollars | Dollars | Dollars |
| Real estate, total: | : | 10,565 | : | 14,026 | 11,590 | 11,590 |
| Land | : | (7,765) | : | (8,726) | (8,190) | (8,190) |
| Buildings | : | (2,800) | : | (5,300) | (3,400) | (3,400) |
| Livestock | : | 2,455 | : | 2,419 | 2,419 | 2,480 |
| Machinery and equipment | : | 573 | : | 1,100 | 573 | 340 |
| Supplies | : | 400 | : | 450 | 400 | 350 |
| Total | : | 13,993 | : | 17,995 | 14,982 | 15,060 |

Table 5. Cash expenditures needed to establish alternative systems
1945 price level, Farm No. 208

| Item | : | Dairy Grade A | : | Dairy ungraded | : | General- beef |
|-----------------------|---|------------------|---|-------------------|---|------------------|
| | | | | | | |
| | | Dollars | | Dollars | | Dollars |
| Buildings and fence: | : | | : | | : | |
| Tobacco barn | : | 350 | : | 350 | : | 350 |
| Milking barn | : | 1,600 | : | | : | |
| Fence (110 rods) | : | 94 | : | | : | |
| Total | : | 2,044 | : | 350 | : | 350 |
| Pasture and meadows: | : | | : | | : | |
| Seed and kudzu crowns | : | 406 | : | 132 | : | 172 |
| Fertilizer and lime | : | 510 | : | 289 | : | 448 |
| Total | : | 1/ 916 | : | 2/ 421 | : | 3/ 620 |
| Equipment: | : | | : | | : | |
| Manure spreader | : | 296 | : | | : | |
| Dairy | : | 742 | : | | : | |
| Total | : | 1,036 | : | | : | |
| Grand total | : | 4,096 | : | 771 | : | 970 |

1/ 24 acres Ladino and orchard grass
2/ No Ladino and orchard grass
3/ 16 acres Ladino and orchard grass. Maintenance 50 percent of that for the Grade A dairy alternative. More animal units are to be pastured in the general-beef alternative.

Table 6.- Estimated annual average income and expenses on 15 acres
of farm woods for two time periods, Farm No. 208

| Item | Unit | First 10 years | | Eventual 10 years 1/ | |
|---------------------------------------|--------|----------------|---------|----------------------|---------|
| | | Volume | Value | Volume | Value |
| | | | 1945 | | 1945 |
| | | | price | | price |
| | | | Dollars | | Dollars |
| 1. Total Gross Income: | | | | | |
| Home use products: | | | | | |
| Lumber | Bd.ft. | 1,000 | 45.00 | 500 | 22.50 |
| Posts | No. | --- | --- | 100 | 40.00 |
| Fuel wood | Cds. | 1.8 | 16.29 | 5 | 45.00 |
| Total | xx | xx | 61.29 | xx | 107.50 |
| Products for sale: | | | | | |
| Logs | Bd.ft. | --- | --- | 4,000 | 100.00 |
| Pulpwood | Cds. | --- | --- | 1.5 | 12.00 |
| Total | xx | xx | xx | xx | 112.00 |
| Grand total | xx | xx | 61.29 | xx | 219.50 |
| 2. Direct Cash Expenses: | | | | | |
| Sawing lumber | | xx | 10.00 | xx | 5.00 |
| 3. Returns above direct cash expenses | | | 51.29 | | 214.50 |
| 4. Hours of family labor | | 33.6 | xx | 80 | xx |
| 5. Returns per hour of labor | | xx | 1.52 | xx | 2.68 |

1/ About 25 years will be required to attain the ultimate rate of production.

Table 7.- Estimated net cash farm income for representative farms for present and alternative organizations^{1/}

| Physical characteristics | Present type of farm | Present organization | Alternative organizations | | | | | |
|----------------------------|-----------------------|----------------------|---------------------------|---------|---------|---------------------|---------|---------|
| | | | A. 1945 Price Level | | | B. 1940 Price Level | | |
| | | | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Hayesville-Halewood Assn: | | | | | | | | |
| <u>Small Farms</u> | | | | | | | | |
| 1. Low soil resources | Tobacco | 218 | 416 | - | - | 135 | - | - |
| <u>Medium Farms</u> | | | | | | | | |
| 2. Low soil resources | Ungraded dairy | 1,024 | 2,439 | 1,312 | 900 | 1,420 | 682 | 339 |
| 3. Medium soil resources | Gen.-tob. | 595 | 3,215 | - | - | 2,063 | - | - |
| 4. High soil resources | Gen.-tob. | 1,137 | 3,942 | - | - | 2,451 | - | - |
| <u>Large Farms</u> | | | | | | | | |
| 5. Low soil resources | Gen.-tob. | 1,072 | 1,455 | - | - | 613 | - | - |
| 6. Medium soil resources | Gen.-tob. | 855 | 4,367 | - | - | 2,632 | - | - |
| 7. High soil resources | Grade A dairy | 3,559 | 5,766 | 2,040 | - | 3,493 | 803 | - |
| <u>Family-living Farms</u> | | | | | | | | |
| 8. Low soil resources | Fam.-liv. (part-time) | -141 | -51 | - | - | -50 | - | - |
| 9. High soil resources | | -174 | 242 | - | - | 104 | - | - |
| Ramsey Association: | | | | | | | | |
| <u>Small Farms</u> | | | | | | | | |
| 10. Low soil resources | Tobacco | 444 | 490 | - | - | 347 | - | - |
| Porters Association: | | | | | | | | |
| <u>Small Farms</u> | | | | | | | | |
| 11. Low soil resources | Fam.-liv. | 130 | 681 | 1,682 | - | 333 | 662 | - |

^{1/} Gross cash income less cash expenses and depreciation.

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6 9Recommendations

by

Neil W. Johnson

After spending a day in reviewing the preliminary research results, those who attended the Washington conference^{10/} reacted first to the effectiveness of the procedures used in Haywood County and to the probable usefulness of the research results as guides for agricultural programs. They expressed general satisfaction with the results of the study and felt that they could contribute to improving the agricultural program of Haywood County and that they should be made available to agricultural workers.

The broad outlines of the experimental research procedures employed were recognized as generally effective and adapted to use over wide areas. The feeling was general, however, that on the basis of the Haywood County experience, similar results could be obtained with less expenditure of time, money, and effort if the work were repeated in another location in the Valley--particularly one representing quite different physical and economic conditions. The group suggested that this be done, feeling that further improvement in the research techniques employed should result and at the same time information useful in orienting agricultural programs would be contributed. The group recognized that detailed research of this nature is practical and desirable only in a limited number of locations representative of much larger areas.

The second major consideration in this conference was that of formulating specific suggestions for consideration by the Valley-States Conference regarding the use of the research results that you have heard summarized this afternoon. The group recognized that well-organized and effective agricultural programs are already operating in Haywood County. However, since it was selected as an experimental county, the feeling was general that its program should now be reexamined to determine whether the research results obtained could contribute toward program development and improvement. The group suggested that agricultural programs for counties and communities need to be kept flexible and that periodic reexamination is always desirable.

They felt that some such presentation as you have had this afternoon should be made first to those who have responsibility for administering and supervising agricultural programs in the State and, after their suggestions and modifications, to the agricultural workers in the county. It was recognized that work with the latter group would need to be in more detail, involving several meetings and perhaps field trips to some of the case farms that have been studied. Presentation of the research findings at these meetings would be made by members of the field party who have participated in the research phase of the study. Because of their close association with the work, they should be most effective in interpreting the findings.

^{10/} Brice Ratchford, North Carolina Agricultural Experiment Station and Extension Service; J. W. Moon, Kenneth J. Seigworth, and Charles C. Tropp, Tennessee Valley Authority; Roy D. Hockensmith, John L. Brown, and T. L. Gaston, Soil Conservation Service; Roy Simonson and Lester Odom, Bureau of Plant Industry, Soils, and Agricultural Engineering; Samuel W. Atkins and E. L. Langsford, Bureau of Agricultural Economics; and Neil W. Johnson, Agricultural Research Administration.

NEIL W. JOHNSON

The research results would be presented to the farm people after the agricultural workers had become familiar with them through the medium of community meetings, where the possibilities of the suggested adjustments would be discussed pro and con and in this way tested further for their practicality. They would be considered here in perspective as suggested farm improvements, along with those for the home and community that already form a part of the county's agricultural program. A number of means of getting the material into the thinking of farmers were suggested. These include (1) working with a limited group of farmers recognized as community leaders, (2) working further with the case farmers studied, (3) working with groups of farmers who are roughly comparable in resources, problems, and opportunities to the case farms studied, and (4) working on a more generalized basis with any of the people in Haywood County who are interested.

After the research findings have been thoroughly publicized and tested by the groups mentioned above, one additional step was indicated as desirable in integrating the work into an improved agricultural program for the county. This would involve a second meeting with the agricultural workers of the county where discussion would center on how each worker could use his own skills and specialties to best advantage in assisting farmers in developing well balanced systems of farming designed to improve and conserve resources.

The foregoing activities might be described as those concerned with Program Development, and it was in this field that our group felt those who have conducted the research could perform a real service in helping to interpret it. Having thus formulated a program incorporating the results of research, there would remain the job of putting it into effect. This was termed Program Implementation by the group, as contrasted with the foregoing phase of Program Development.

There are, of course, many techniques that can be used in carrying out an agricultural program in a county and a number of different agencies that can assist in such work. Our working group felt it was beyond the province of our assignment to go very far in making suggestions in this field. We did go on record as endorsing farm planning as an effective means of program implementation, and endorsed the statement on planning individual farms contained in the May 25, 1948, report of the Technical Committee. The opening sentence of that statement is perhaps a good one on which to close this report of the suggestions of our working group: "After grouping and analysis of representative farms has been completed, some farms should be planned in the areas within the scope of this study as a final test of application."

LIST OF MEETINGS

| <u>No.</u> | <u>Date</u> | <u>Place</u> | <u>Proceedings</u> |
|------------|---------------------|---------------------------|--------------------|
| 1 | 1933, September 25 | Knoxville, Tennessee | Typed, 2 pp. |
| 2 | 1933, October 7 | Knoxville, Tennessee | Typed, 1 p. |
| 3 | 1934, July 6-7 | Chattanooga, Tennessee | Typed, 8 pp. |
| 4 | 1934, October 27-28 | Muscle Shoals, Alabama | Processed, 13 pp. |
| 5 | 1935, December 12 | Chattanooga, Tennessee | Typed, 15 pp. |
| 6 | 1936, June 26-27 | Chattanooga, Tennessee | Processed, 20 pp. |
| 7 | 1937, February 6 | Knoxville, Tennessee | Typed, 7 pp. |
| 8 | 1937, July 10 | Knoxville, Tennessee | Typed, 10 pp. |
| 9 | 1937, November 3 | Knoxville, Tennessee | Typed, 5 pp. |
| 10 | 1938, April 25 | Knoxville, Tennessee | Typed, 13 pp. |
| 11 | 1938, October 4 | Atlanta, Georgia | Typed, 10 pp. |
| 12 | 1939, April 4 | Birmingham, Alabama | Typed, 9 pp. |
| 13 | 1939, October 3 | Chattanooga, Tennessee | Typed, 10 pp. |
| 14 | 1940, April 2 | Knoxville, Tennessee | Processed, 17 pp. |
| 15 | 1940, October 1 | Asheville, North Carolina | Typed, 9 pp. |
| 16 | 1941, March 4-5 | Florence, Alabama | Processed, 32 pp. |
| 17 | 1941, October 28 | Atlanta, Georgia | Processed, 29 pp. |
| 18 | 1942, March 3 | Roanoke, Virginia | Processed, 13 pp. |
| 19 | 1942, October 6 | Knoxville, Tennessee | Processed, 44 pp. |
| 20 | 1943, May 13 | Atlanta, Georgia | Processed, 20 pp. |
| 21 | 1944, April 3 | Knoxville, Tennessee | Processed, 61 pp. |
| 22 | 1944, October 3 | Birmingham, Alabama | Processed, 74 pp. |
| 23 | 1945, April 3 | Atlanta, Georgia | Processed, 67 pp. |
| 24 | 1945, October 5 | Chattanooga, Tennessee | Processed, 88 pp. |
| 25 | 1946, April 3 | Atlanta, Georgia | Processed, 77 pp. |
| 26 | 1946, October 2 | Biloxi, Mississippi | Processed, 93 pp. |
| 27 | 1947, April 2 | Abingdon, Virginia | Processed, 86 pp. |
| 28 | 1947, October 1 | Knoxville, Tennessee | Processed, 71 pp. |
| 29 | 1948, April 7 | Lexington, Kentucky | Processed, 65 pp. |
| 30 | 1948, October 6 | Asheville, North Carolina | Processed, 94 pp. |
| 31 | 1949, April 6 | Birmingham, Alabama | Processed, 81 pp. |
| 32 | 1949, October 5 | Atlanta, Georgia | Processed, 98 pp. |

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